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*An EVIL Look at Data Assimilation*

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Hybrid variational/ensemble data assimilation (*aka* hybrid DA) is widely used in research and operational systems and it is considered as the current state-of-the-art for the initialization of numerical weather prediction models. However hybrid DA requires a separate ensemble DA to estimate the uncertainty in the deterministic variational DA, which can be suboptimal both technically and scientifically. A new NCAR-developed algorithm called the Ensemble-Variational Integrated Localized (EVIL) data assimilation addresses this deficiency by updating both the deterministic and ensemble analyses within a single variational system. Idealized cases with a simplified model have shown the potential of EVIL to outperform existing DA systems. Recently, the algorithm has been implemented within the GSI framework for regional and global models. Particular attention was devoted to the affordability of the algorithm in preparation for operational applications. In this seminar, we will explain the theory of EVIL, describe various implementation strategies and show early results with the WRF model.

*This seminar will be webcast live at:*

*<http://www.fin.ucar.edu/it/mms/fl-live.htm>*

*Recorded seminar link can be viewed here:*

*<https://www.mmm.ucar.edu/events/seminars>*

**Thursday, 26 March 2015, 3:30 PM**

Refreshments 3:15 PM

NCAR-Foothills Laboratory

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