



## **Improving predictions by cross pollination in time**

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Given a set of imperfect weather models, one could ask how these models can be combined in order to improve weather predictions produced with these models. In this study we explore a technique called cross-pollination in time (CPT, Smith 2001). In the CPT approach the models exchange states during the prediction. The number of possible predictions grows quickly with time and a strategy to retain only a small number of predictions, called pruning, needs to be developed. In the learning phase a pruning strategy is proposed based on retaining those solutions that remain closest to the truth. From the learning phase probabilities are derived that determine weights to be applied to the imperfect models in the forecast phase. The CPT technique is explored using low-order dynamical systems and applied to a global atmospheric model. First results indicate that the CPT approach improves the forecast quality over the individual models.