Comparative Modeling Symposia

Goal: To facilitate discussion among researchers who are working to explain the same cognitive phenomena using different modeling approaches.

This symposium format instantiates the ICCM 2004 theme of "Integrating Computational Models" in that it aims to foster comparison between models and communication between modelers. Ideally, these symposia will lead to insights regarding how various models function to explain the same phenomena, what processes these models have in common, and where they differ. Because the modeling approaches involved may differ substantially, an important binding element for each symposium lies in specifying a common dataset to be modeled.

Submission Requirements: Symposium submissions should briefly address each of the key components listed below and include short statements sketching the planned contribution of each participant. Symposium organizers are encouraged to contact the conference chairs for more guidance, if desired, and to make their submissions *substantially before* the regular deadline. Submissions may be emailed to `iccm@simon.lrdc.pitt.edu`.

Key Components for each Comparative Modeling Symposium

Dataset(s): The symposium participants must agree on a pre-specified set of data to be modeled. (Here, "set of data" will likely encompass data collected from more than one study.) This agreement may be negotiated in detail by the participants, or perhaps more efficiently, a "data person" who is not involved in the modeling efforts can be designated to select the data to be modeled. The common set of data shall then be made available to all participants well in advance of the conference. As an additional option, a subset of the data may be withheld from symposium participants until their main modeling work is completed; then, each model's predictions for this withheld data can be generated and evaluated when those data are ultimately revealed. Under this option, another advantage of nominating a "data person" is that he or she may have some preliminary, unpublished data that could be used in this predictive-test role.

Pre-conference sharing of results: One month before ICCM 2004 is held, the symposium participants will make available descriptions of their models, their model fits for the common dataset, and the models themselves. This pre-conference deadline is critical for participants to have a chance to reflect on how the various models are related. These reflections will then form an important part of the actual symposium presentations. This deadline would also be a good date for models to be considered finalized (i.e., a "code freeze" date), so that participants can use the final month to prepare their presentations on a set of stable models.

Meaningful comparisons: During the symposium itself, besides offering a venue for participants to describe their models, the overall presentation should allow time for making comparisons between/among the models. Ideally, these comparisons will lead to insights that relate *how* the various models fit the data, not just how *well*. A discussant (who also has had access to the full models, model descriptions, and model fits a month before ICCM 2004) would provide this comparative discussion. While goodness-of-fit comparisons will inevitably play a role here, the discussant's goal should be relating the models' substance rather than testing the models in a computational "bake off." Of course, individual symposium participants are also encouraged to take on this important task of relating models as part of their individual presentations.