

CRITERIA FOR PAPERS REPORTING ON DEVELOPMENT AND/OR USE OF COMPUTER MODELS

The Stapp Journal and Conference are forums for dissemination of new data and developments on issues of biomechanical responses and human tolerance, restraint systems, occupant protection, and automotive safety related to human injury prevention. The role of mathematical models is increasing in the design and validation of safety systems, and therefore studies related to the development and application of these models are generally relevant to the Stapp Journal and the Stapp Conference. In addition to the principal criteria that the paper must be relevant to occupant safety, the Stapp Advisory Committee has developed additional criteria for modeling papers related to the documentation and validation of the models.

Papers that deal primarily with the development and/or application of a mathematical model should add to the modeling knowledge base and should report on new modeling techniques and/or modeling data. The model should be described in a complete manner that enables a knowledgeable reader to understand and appreciate the basis, nature, and unique features of the model. Also, the paper should provide sufficient details about model parameters, parameter values, and how those parameter values were determined, so that the modeling approach and results can be verified by other experienced modelers. Simply showing that a model has been developed with the capability to model a phenomenon or device is not sufficient.

The following are examples of appropriate types of modeling papers that will be considered for the Stapp Journal and the Stapp Car Crash Conference.

- The paper may report on new modeling technology related to injury biomechanics, but should not simply report on a known or existing capability in a new computer code. That is, the paper may describe the development of a new model with new capabilities to simulate the human or human surrogate in crash environments. However, the paper must include evidence of model validation based on comparisons with experimental data for a range of impact conditions that are different from those used to develop the model.
- The paper may describe the utilization of an existing model to explore injury mechanisms or human responses. In this case, the paper must include evidence of, and/or reference to, validation of the model for conditions representative of the particular application, as well as a clear description and interpretation of the results obtained.
- The paper may offer an objective review of current modeling technologies along with a statement and/or description of future direction. That is, the paper may offer a state-of-the-art review of models, a comparison of results from models that use different computer codes, etc.

If you have questions on Stapp requirements and criteria for modeling papers, please contact Leda L. Ricci, Executive Editor.