American Chemistry Council®

Science and Research Highlight

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Exposure Model Peer Review:
Exploring Key Attributes to Elucidate Best Practices

Advancing the understanding of exposures to improve risk-based decision making is one of the key focus areas of **ACC's LRI Research Strategy**.
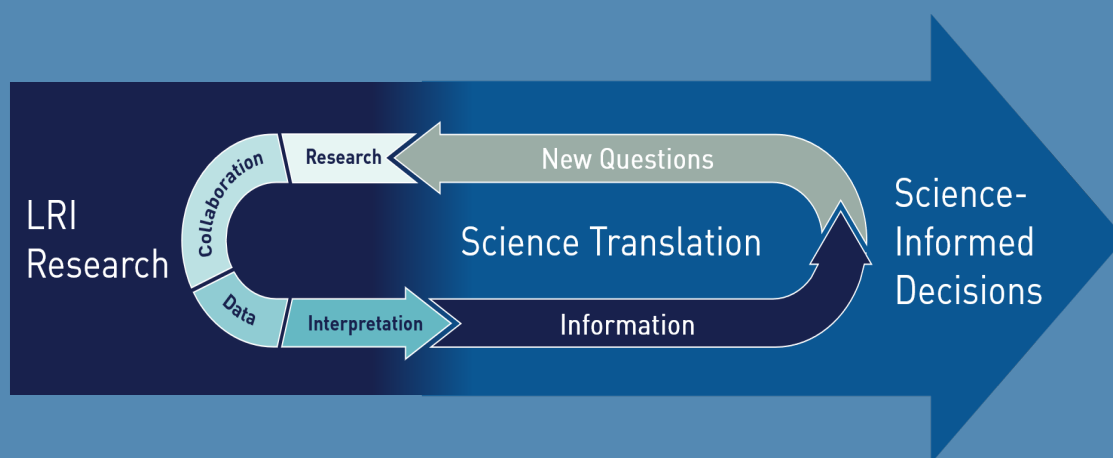
As new exposure models are developed, and existing models are improved, developing confidence in applying the models to support regulatory actions and product stewardship decisions hinges on understanding the process and rigor of the independent external evaluation these models have been subjected to.

Improving peer review will bolster confidence in model predictions

As part of the ACC Long-Range Research Initiative (LRI), a research project conducted by **SciPinion** engaged leading experts to recommend specific criteria for evaluating the degree to which an exposure model has been peer reviewed. The findings of this project are being presented at the International Society of Exposure Science (ISES) annual meeting August 30 - September 2.

- The recommended criteria include specific elements to evaluate the model peer review process itself (e.g., internal review by a regulatory agency by internal subject matter experts, collaborative expert review reports, formal external Scientific Advisory Panels, journal peer review, etc.) and to appraise the transparency and quality of model documentation.

- The experts also recommend judging the degree of model rigor using a set of specific criteria: (1) nature and quality of input data, (2) model verification, (3) model corroboration, and (4) model evaluation.

- Other recommendations include addressing model uncertainty and sensitivity, defining the model domain of applicability, and procedures to flag a model when a model is used outside its domain of applicability.

The findings of this project will produce greater transparency in the evaluation and peer review of exposure models, and foster greater confidence across developers, users, and stakeholders in model applications. For more information see the **Current Project** page of the **ACC LRI website**.