## Advances in Reliability, Safety and Security

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## The IDEA Protocol for Structured Expert Judgment: A Recent History of Applications

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The IDEA (Investigate, Discuss, Estimate, Aggregate) protocol (e.g., Hemming et al., 2017) for Structured Expert Judgment (SEJ) proposes a hybrid method to elicit and aggregate experts' judgment. The experts are asked to provide individual assessments in two rounds, intertwined by a discussion session. The discussion is meant for clarifications and more insights into the context of the questions. After the second round of individual assessments, which can lead updated assessments based on the discussion session, experts' assessments are aggregated using a mathematical model of choice. This can entail using equal weighting or unequal weighting, such as the weighting scheme proposed by the Classical Model for SEJ (Cooke, 1991).

Therefore, IDEA combines elements from other SEJ protocols.



Fig. 1. The IDEA protocol steps. Adapted from: Hemming V, Walshe TV, Hanea AM, Fidler F, Burgman MA. 2018. Eliciting improved quantitative judgements using the IDEA protocol: A case study in natural resource management. PLoS ONE.

The IDEA protocol has been successfully used in numerous applications in ecology (e.g., Rose et al., 2023), biosecurity (e.g., Kean et al., 2023) and the replicability of science (Hanea et al., 2021). During my talk, I will provide more insights into some of these applications. Some of the applications discussed during the talk successfully combined IDEA with the Classical Model, whereas others only aspired to.

If time permits, I will highlight one of the online tools for eliciting judgements with the IDEA protocol (see Figure 2).



Fig. 2. The IDEAcology platform for running online elicitations with the IDEA protocol.

The IDEAcology interface (available at https://www.ideacology.com) supports the expert data collation and summary, and the expert interactions and feedback essential in a structured elicitation using the IDEA protocol. For more details about IDEAcology, I refer to Courtney Jones et al. (2023).

## References

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