



International Alliance for  
Biological Standardization

## 11th Annual Statistics Workshop: Big Tent Statistics - Conveying the Importance of Statistical Contributions

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Virtual Meeting

### **Bayesian Hierarchical Models for Enhanced Experimental Design**

Text Statistical experimental design is a central component of many development activities, such as process characterization, formulation robustness, and analytical method robustness. Experimental design, though, has become so common that it can be viewed as a check-the-box activity, where scientists follow the procedure out of obligation rather than appreciating it as a tool to improve knowledge. This talk shows how Bayesian hierarchical modelling offers a new opportunity for collaboration by quantifying platform knowledge, as demonstrated through a recently published example on Protein A purification process characterization. Also, infusing Bayesian statistics into the experimental design process, can improve engagement with scientists to participate more directly in the design process, offering designs that are commensurate with available, justifiable prior knowledge.

