“Predictive multiscale modeling of atrial fibrillation for therapy development”

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Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in the United States and the rest of the developed world, and has serious morbidity and mortality. Because AF has several variants, is multi-factorial, and evolves over time, it is very difficult and expensive to study comprehensively in large-animal models, in part due to the inherent technical difficulties of imaging whole-atria electrophysiology *in vivo*. Predictive multiscale computational modeling has the potential to fill this research void.

We will overview the state of the cardiac, and more specifically AF, modeling community, and describe our plans to help move the community forward in a cohesive way. We will also discuss our long range scientific goal, which is to utilize multiscale modeling to predict the efficacy of pharmacological agents in controlling AF.