



## Daisuke Sato, Ph.D.

### Research/Academic Interests

Sudden cardiac death is the leading cause of death in the United States. Our knowledge of sudden cardiac death is still limited. CAST (Cardiac Arrhythmia Suppression Trial) and SWORD (Survival With Oral d-Sotalol) clinical trials failed and tested drugs increased mortality. These single target drugs often cause unpredicted phenomena in the heart, which is the highly complex system. The complexities come from nonlinearities in the heart. The goal of Dr. Sato's research is to understand how molecular level properties are linked to organ level phenomena using mathematical analysis and multiscale modeling of the heart.

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**Specialty** Biomedical Engineering

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**Education** Ph.D., Physics, Northeastern University, Boston MA 2006  
B.S., Waseda University, Tokyo, Japan 1999

**Select Recent Publications** To view Dr. Sato's publications, please click [here](#).

Sato D, Hernández-Hernández G, Matsumoto C, Tajada S, Moreno CM, Dixon RE, O'Dwyer S, Navedo MF, Trimmer JS, Clancy CE, Binder MD, Santana LF. A stochastic model of ion channel cluster formation in the plasma membrane. *J Gen Physiol.* 2019 Sep 2;151(9):1116-1134. doi: 10.1085/jgp.201912327. Epub 2019 Aug 1. PMID:31371391.

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