B·DEBATE International Center for Scientific Debate BARCELONA

upf. Universitat Pompeu Fabra Barcelona

WENDELL LIM

CV

PARTICIPANT AT:

SYNTHETIC BIOLOGY.
FROM STANDARD BIOLOGICAL PARTS TO ARTIFICIAL LIFE

September, 17th-18th, 2015, Barcelona

Wendell A. Lim, Department of Cellular and Molecular Pharmacology, University of California San Francisco, San Francisco, CA, USA

Professor and Chair, Dept. of Cellular and Molecular Pharmacology. Investigator, Howard Hughes Medical Institute. Director, UCSF Center for Systems & Synthetic Biology. Deputy Director, NSF Synthetic Biology Engineering Research Center (A.B., Harvard University, Chemistry; Ph.D., Massachusetts Institute of Technology, Biochemistry & Biophysics, Postdoctoral Fellow; Yale University, Molecular Biophysics). Wendell Lim is interested in understanding how genetically encoded molecular programs can yield the remarkable regulatory behaviors observed in biological organisms, at multiple scales. They utilize a mechanistic understanding of molecules as a foundation to study how systems of interacting molecules assemble to yield cellular or organismal signaling behaviors – complex behaviors in both space and time. His lab is interested in both the fundamental principles governing these molecular programs, as well as the way such programs have evolved. They use synthetic biology as an approach to systematically understand the design principles of molecular networks, as well as an approach to engineer cells with useful designed behaviors, such as therapeutic immune cells that are custom programmed to recognize and treat cancer or other diseases.

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ABSTRACT

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Programming and Perturbing Cell Signaling Networks

They are interested in the design principles of cell signaling circuits that allow cells to sense their environment, to process this information, and to make complex response decisions. They are using synthetic biology approaches to systematically reconstitute signaling networks in order to better understand their design logic and fitness tradeoffs. They are also harnessing our increasing understanding to build cells with useful customized sensing-actuator functions, such as therapeutic immune cells that can recognize and treat cancer or other diseases.

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