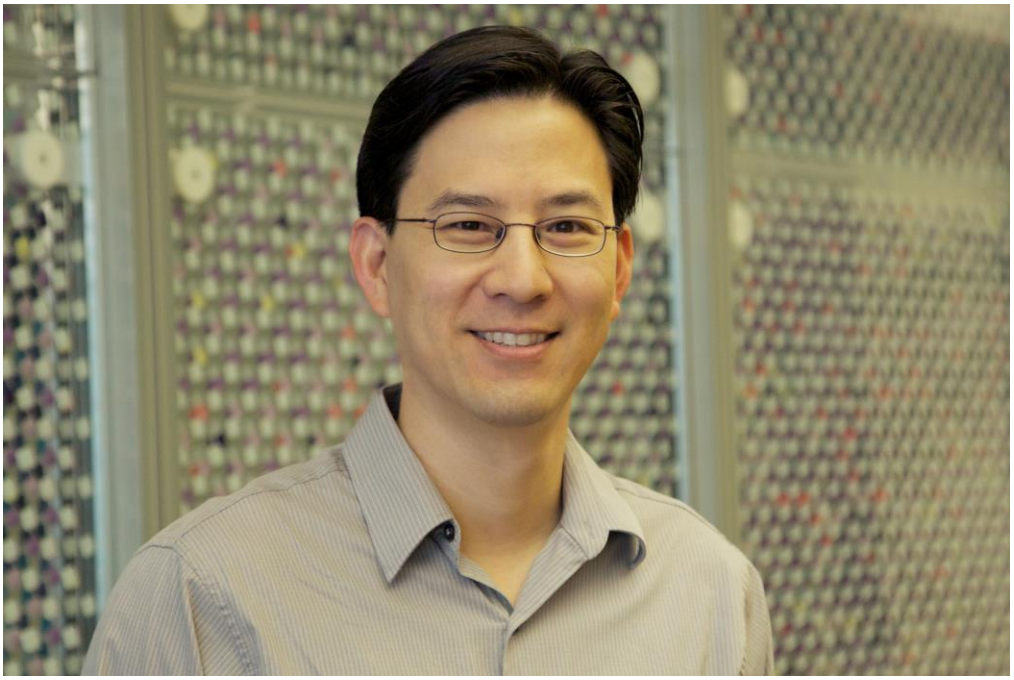

DR. WILLIAM M. SHIH

Department of Biological Chemistry and Molecular Pharmacology,
at Harvard Medical School and the Department of Cancer Biology
at the Dana-Farber Cancer Institute, Boston, MA

"HIFI MOLECULAR TRANSMISSION VIA CRISSCROSS COOPERATIVITY"

February 7th, 2020 ~ 11:30AM
Life Science Center II, Room 130

Abstract: DNA origami, in which a long scaffold strand is assembled with a large number of short staple strands into parallel arrays of double helices, has proven a powerful method for custom nanofabrication of shapes up to 100 nm in size. However, the scaffold represents about half the mass of an origami, therefore the origami size is restricted by the length of the scaffold. However, it is impractical and prohibitively expensive to scale the length of the scaffold. Here I will discuss a strategy that we call crisscross ultracooperative assembly that combines all-or-nothing scaffold-dependent initiation of folding with scaffold-independent growth, therefore allowing for sizes unbounded by the length of the scaffold. A major application will be digital counting of molecular analytes, where each molecular detection event triggers growth of a single filament resolvable by low-cost microscopy.

SPRING 2020 CHEMISTRY SEMINAR SERIES

HOST: DR. FEI ZHANG

COFFEE SOCIAL 11:00 AM OLSON HALL, 338

ALL THOSE INTERESTED ARE WELCOME TO ATTEND

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