

Controlling Biological Systems and Digital Biology: Wound Healing and Cell Reprogramming

In this talk, I will present my research on dynamical systems and control theory that has led to a technology for controlling cell identity in reprogramming and wound healing. Our methods for cell reprogramming involve direct conversion, eliminating the need for an embryonic stem cell-like state. I will introduce our version of digital biology, which forms the basis for an automated digital-physical platform aimed at accelerating discovery in biology. My vision is that this platform will transcend the capabilities of non-unified approaches and, borrowing from Arthur C. Clarke, “venture a little way past them into the impossible.”

