



DEPARTMENT OF
COMPUTER SCIENCE

TEXAS TECH
Whitacre College of Engineering

AI-Driven Design of Robots and Biobots

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3:30 p.m.

Zoom: <https://texastech.zoom.us/j/5545894586?pwd=tri5GaFs71jaJybhTOUnSXGdl5PHtX.1&omn=94081544402>

Meeting ID: 554 589 4586

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Abstract: The body plays a major, possibly primary role in the acquisition of adaptive and intelligent behavior. But exactly how a robot's body plan facilitates or obstructs its ability to acquire behavior is non-intuitive, suggesting that AI-driven design may better discover more useful and safe machines than training control policies on hand-designed robots. After reviewing some ways the body supports intelligence, I'll describe how AI can be brought to bear on the robot design problem, and the menagerie of AI-designed robots that result. I'll then show how AI can also design biobots: robots built entirely from biological rather than technological components. I'll conclude by speculating on the future of AI-driven robotics and biology, and how it may help usher in truly useful, safe, intelligent, and autonomous machines.

Bio: Professor Josh Bongard's research centers on evolutionary robotics, evolutionary computation and physical simulation. He runs the Morphology, Evolution & Cognition Laboratory, whose work focuses on the role that morphology and evolution play in cognition.

In 2007, he was awarded a prestigious Microsoft Research New Faculty Fellowship and was named one of MIT Technology Review's top 35 young innovators under 35. In 2010 he was awarded a Presidential Early Career Award for Scientists and Engineers (PECASE) by Barack Obama at a White House ceremony.

