

Big Donor Backing for a Breakthrough Scientist

JIM COLLINS BECOMES BU'S FIRST HOWARD HUGHES MEDICAL INSTITUTE INVESTIGATOR

JIM COLLINS can add another breakthrough to his list. The College of Engineering professor of biomedical engineering, a pioneer in the new fields of systems biology and synthetic biology, has become the first Boston University researcher to win backing from the Howard Hughes Medical Institute (HHMI), the country's largest private supporter of biomedical research. It is an honor that provides him with long-term funding for the type of bold research that government funding agencies are increasingly hesitant to support.

Collins was one of 56 new HHMI investigators chosen this year from more than 1,000 applicants nationwide. Rather than receiving a traditional grant, he will technically become an employee of HHMI, which was founded by Howard Hughes, the late aviator, engineer, and film producer. The institute, which has an endowment estimated at \$18.7 billion, will provide Collins with a salary and money for postdoctoral research-

ers and other lab assistance, along with equipment and supplies, for at least five years (subject to renewal). At the same time, he will maintain his faculty position at BU and continue as codirector of the Center for BioDynamics.

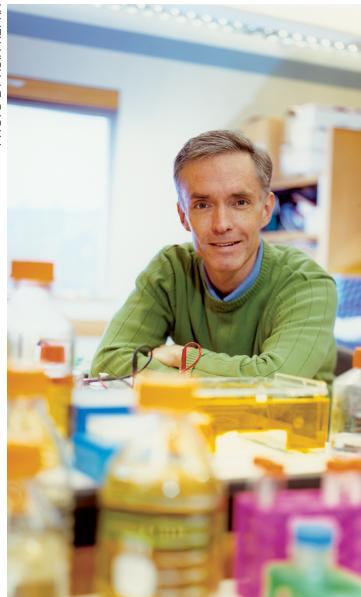
The exact amount of money heading Collins's way is uncertain. But HHMI is committing more than \$600 million to fund this year's crop of investigators over the next five years.

Collins developed the first genetic "toggle switch," a bioengineered circuit that works like a light switch in a cell, prompting it to start or stop an immune response or the production of certain proteins when stimulated by a drug or a toxin. And he and fellow researchers at his Applied BioDynamics Laboratory have been reverse engineering the cellular and genetic networks of bacteria.

He says the new funding will support, among other projects, the development of a more effective antibiotic. Using engineered bacteria cell circuitry, he and his lab team aim to "better understand how bacteria respond to existing antibiotics and other stimuli by researching the function of protective and cell-death pathways."

The lab will also be using synthetic genetic networks to test out "genetic mediators behind the development and progression of different diseases," he says, with an eye toward using the results to help design new drugs. **CB**

PHOTO BY ASIA KEPKA



As BU's first Howard Hughes Medical Institute investigator, ENG's Jim Collins will work to develop a more effective antibiotic.

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A VIDEO OF JIM COLLINS TALKING ABOUT HIS GENETIC TOGGLE SWITCH IS AT WWW.BU.EDU/BOSTONIA.