Gates Foundation Grant Awarded for Innovative Global Health Research

Georgia Tech Institute of Technology

The Georgia Institute of Technology has received a $100,000 Grand Challenges Explorations grant from the Bill & Melinda Gates Foundation. The grant will support an innovative global health research project led by Todd Sulchek, an assistant professor in Georgia Techs School of Mechanical Engineering, titled "Complement-based antibiotic microbeads."

Sulchek's project is one of 78 grants announced by the Gates Foundation in the fourth funding round of Grand Challenges Explorations, an initiative to help scientists around the world explore bold and largely unproven ways to improve health in developing countries. The grants were provided to scientists in 18 countries on six continents.

To receive funding, Sulchek and David White, a microbiologist at the Centers for Disease Control and Prevention (CDC), showed in a two-page application how their idea falls outside current scientific paradigms and might lead to significant advances in global health.

For their project, Sulchek and White plan to design multi-functional microparticles that can fight infectious diseases.

"If we are successful, this technique may eventually be useful for battling many hard-to-treat diseases, like malaria and tuberculosis, which evade the immune system," said Sulchek.

The microparticles will be engineered to simultaneously accomplish two goals: target and bind infectious disease microorganisms, and activate the localized immune system.

"The ultimate goal is to activate the immune system so that it can fight the microbe itself," said White.

Georgia Tech graduate student Patricia Pacheco and several undergraduate students will also be involved in this project.

The initiative is highly competitive, receiving almost 2,700 proposals in this round.

"The winners of these grants show the bold thinking we need to tackle some of the world's greatest health challenges," said Dr. Tachi Yamada, president of the Gates Foundation's Global Health Program. "I'm excited about their ideas and look forward to seeing some of these exploratory projects turn into life-saving breakthroughs."

Grand Challenges Explorations is a five-year, $100 million initiative of the Gates Foundation to promote innovation in global health. The program uses an agile, streamlined grant process applications are limited to two pages, and preliminary data are not required. Proposals are reviewed and selected by a committee of foundation staff and external experts, and grant decisions are made within approximately three months of the close of the funding round. Successful projects have the opportunity to receive a follow-on grant of up to $1 million.

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