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RESEARCH

Professor recongized for work to combat antibiotic resistance

by Michal Ruprecht
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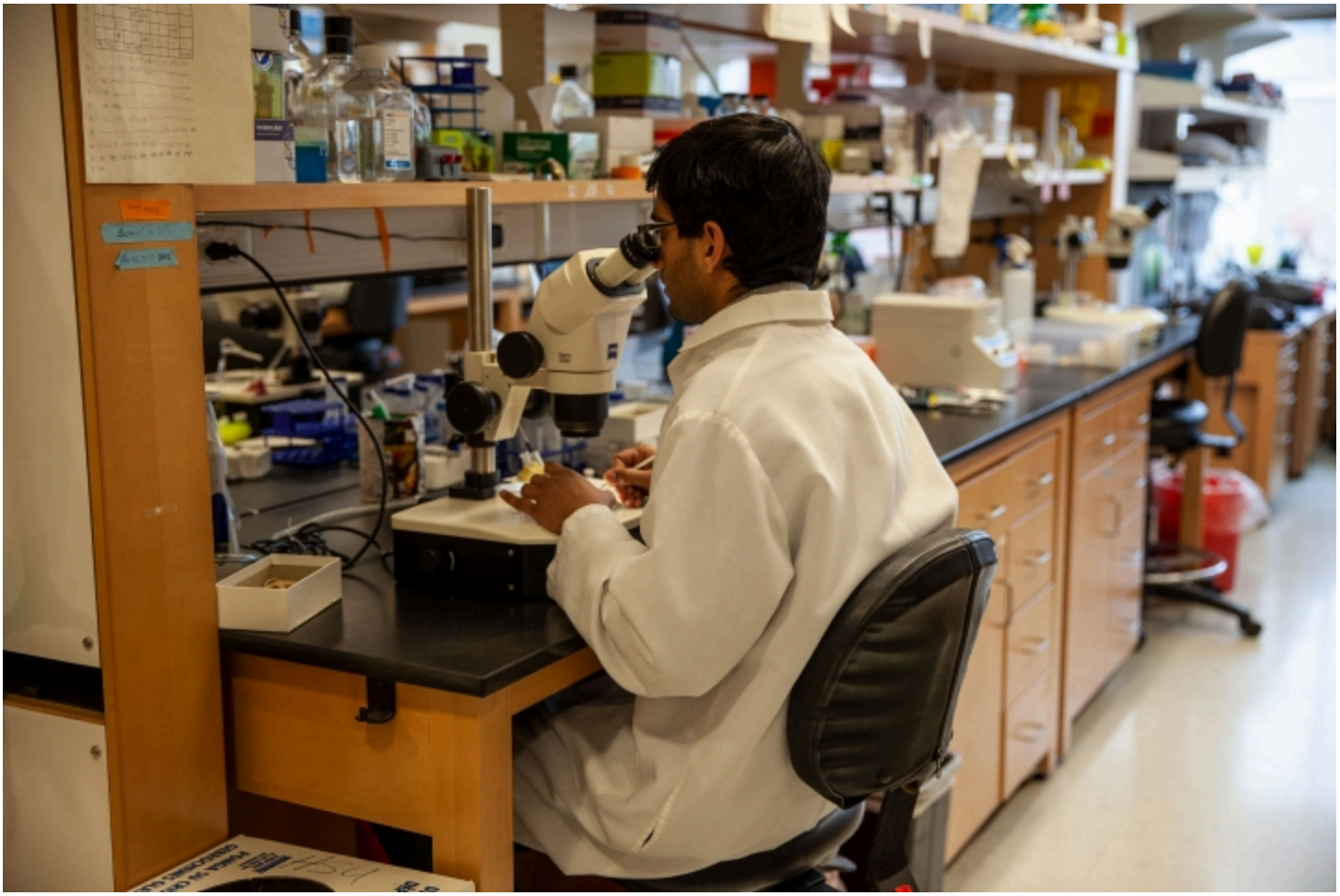

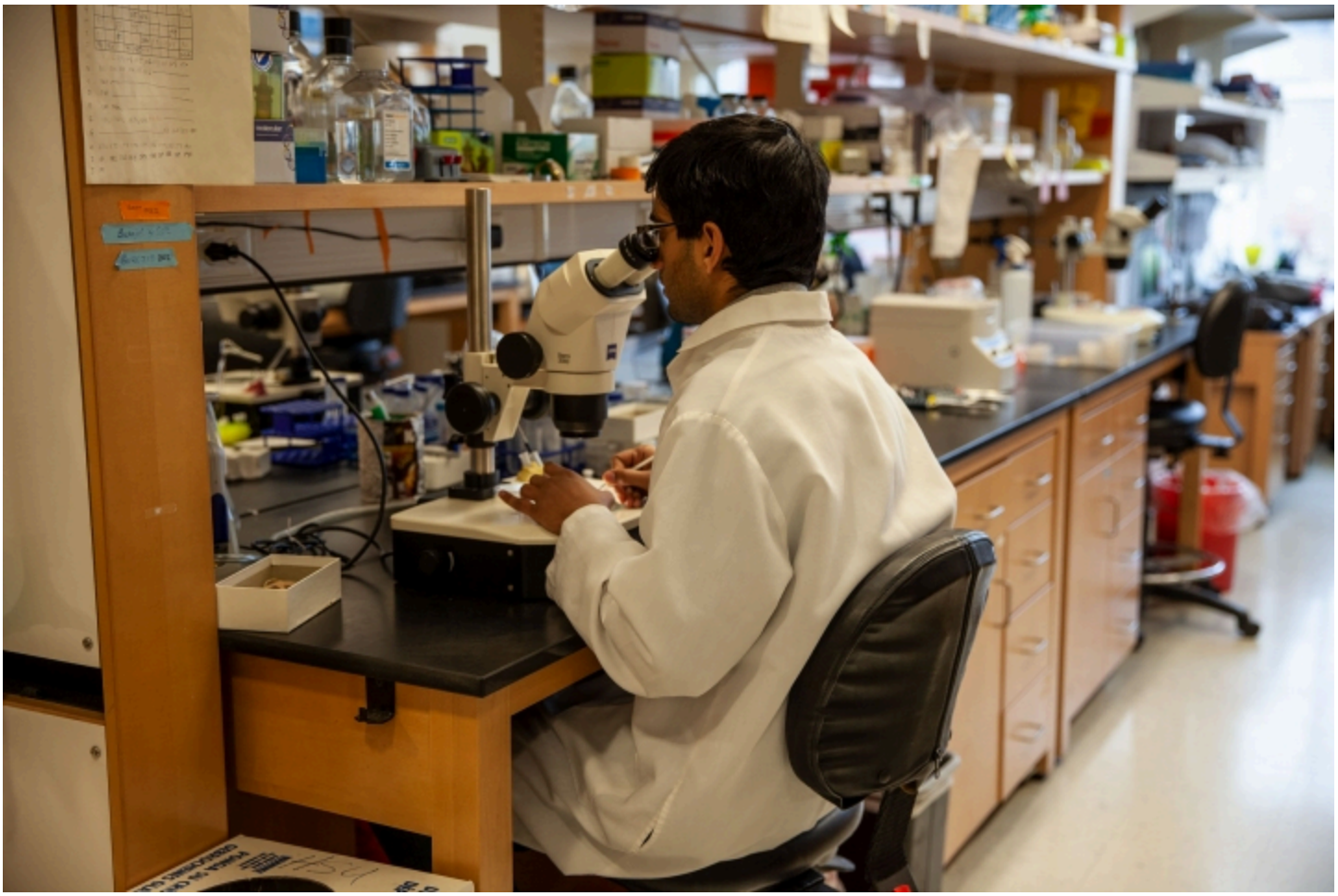

Randy Stockbridge, University of Michigan assistant professor of molecular, cellular and developmental biology, was one of 11 researchers in the country to **receive** the Investigators in the Pathogenesis of Infectious Disease award from the Burroughs Wellcome Fund in May.

Stockbridge said the award does not require preliminary data; rather, it's given to researchers who have unique ideas and approaches. She added the application process was long, culminating in an interview with a panel of accomplished scientists in North Carolina.

"I had a whole month after that to kind of ruminate on how the interview went, and I had no idea, and so I was pretty surprised (when she got the notification that she won), actually, it was a good feeling," Stockbridge said. "They're looking for out-of-the-box approaches to understand pathogenic bacteria and how they interact with their hosts, and I thought I had an out-of-the-box idea about that."

With the award, Stockbridge will receive $500,000 over five years to support her work on ion channels and their evolutionary conservation in bacteria. She said ion channels play a role in cell-to-cell communication and drug targeting in response to movement of ions.

Stockbridge said this area of research is important because bacteria are able to use these drug-targeting pathways to combat antibiotics, otherwise known as antibiotic resistance.

The World Health Organization **released** a report in April stating that the overuse of antimicrobial drugs such as antibiotics in humans, animals and plants is fueling resistant pathogens that could kill 10 million people annually by 2050. In addition, a **study** found high rates of resistance to an antibiotic called colistin, which is **listed** on the 2017 WHO Essential Medicines List as a "last resort" antibiotic. Other bacteria have also gained resistance to different antibiotics, causing antimicrobial resistance to become a growing public health concern worldwide.

Postdoctoral researcher Ali Kermani, who is part of Stockbridge's lab, said the lab's research is important to provide the scientific and medical communities more data on the emerging health concern. Kermani noted the lab's research on proteins involved in biofilm formation, which has been **shown** to protect bacteria from antibiotics, is also important in the medical field.

"It was a very, very prestigious award and it was very competitive," Kermani said. "It was very encouraging that the type of research that you're doing is so exciting that other people … realize that it would be a very good place for investing their funds."

Stockbridge added it's important to come up with new ways to deal with drug resistance.

"That's the goal of the foundation, and that's the goal of the research," Stockbridge said. "It's to understand, or to really discover, new ways that we can deal with pathogenic bacteria and infection in humans, and better human health. Obviously, drug resistance is a huge problem that we need new, novel avenues to approach that."

Lab technician Ben Koff, who also works in Stockbridge's lab, said he's also excited about the award because it provides valuable recognition for the lab.

"I mean, that's really exciting … that your boss won an award. … It's money and it gives the lab recognition, which is cool, and it's just cool that the work you're doing is received and known by people," Koff said. "As long as you're giving the scientists money, they can keep doing their research."

Stockbridge said she hopes to use the funds to hire an additional postdoctoral researcher to pursue her lab's work.

“It’ll give me the funds to hire a postdoc, have the resources that I need to really pursue this idea seriously and take my best shot, really, to see what there is to discover in this realm, and so just having the support to do that is a huge thing,” Stockbridge said. “I’m hoping that I’m able to build this into a new direction for my lab — a new direction in understanding potential antibiotics and bacterial communication.”