

DEMONSTRATIONS OVER PROJECT

BY JESSE COBURN
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About 100 opponents of the Heartland Town Square development proposal gathered in Dix Hills on Saturday in a show of resistance to the controversial project, which they said would negatively impact local schools, roads and quality of life.

The protesters faced off against about 30 supporters of the immense mixed-use development proposal, who argued it would bring much-needed housing and jobs to the area.

Boosters and opponents waved signs and led chants across the street from the planned Heartland site, the former Pilgrim State Psychiatric Center in Brentwood, where developer Jerry Wolkoff wants to build 9,000 apartments and millions of square feet of office and retail space.

"This is going to change the face of Long Island," said James Ptucha of Dix Hills, president of the 4 Towns Civic Association, which organized the rally.

Ptucha said the density of the project — which could include up to 10-story buildings — would clash with surrounding neighborhoods of single-family homes and overwhelm local roads with traffic.

He said he would support development at the site on a smaller scale.

Michael Capuano, president of Citizens for a Better Islip, came out to voice his support for Heartland.

"This is the answer to all the problems in this area," said Ca-



Heartland opponents rally along Commack Road in Dix Hills on Saturday. Supporters were also there. ■ Video: newsday.com/suffolk

puano, of Oakdale.

Capuano said the development would boost the local economy, and create the type of dense, walkable neighborhoods Long Island requires to keep young people from moving away.

"People need a community like this," he said.

The Islip Town Board signed off on the first phase of the project in July. In November, the Brentwood school district, the 4 Towns Civic Association and a local attorney sued the Islip Town Board and the Heartland developers to prevent the project from moving forward.

Robert Feliciano, president of the district Board of Education, attended Saturday's rally. He said Wolkoff had "grossly underestimated" the number of school-age children the development would bring, and that the school district did not have

the resources to properly accommodate all of them.

The opposing demonstrations grew contentious, and some Heartland supporters complained that opponents told them to "go back to Brentwood."

"I feel like there's some racial undertones to that," said Patrick Rodrigues, 21, a Heartland supporter, noting Brentwood's large Hispanic population.

Justin Marino of Dix Hills, board counsel to the 4 Towns Civic Association, said any such taunts were "completely unacceptable" and not representative of the association's views.

Wolkoff defended his development proposal in an interview Saturday, saying it will benefit the region.

"Is this for everybody? No," he said. "But people want this."

Wolkoff said he hoped construction would begin in 2020.

PSEG: All power restored on LI

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PSEG Long Island reported Saturday night that power had been restored for all customers who lost electricity as a result of Wednesday's snowstorm.

More than 91,700 customers lost power during Wednesday's storm, which blanketed the region with wet, heavy snow that knocked down trees and limbs, and took down power lines and utility poles.

The final days of a restora-

tion effort can be the most difficult, with complex work conditions requiring extra time to restore power to fewer and fewer customers. The so-called singles can be "more labor intensive," spokeswoman Brooke Houston said.

Some repairs were temporary, and "we have a fair amount of work ahead of us to make all repairs permanent," the utility said Saturday.

One problem with getting crews from local utilities, including PSEG sister company PSE&G of New Jersey, is that many regional utilities are working overtime to restore

their own sizable power outages.

Wednesday's nor'easter was the second large storm PSEG responded to in under a week's time.

Another nor'easter bearing strong winds and rain knocked out power March 2 to more than 128,000 Long Island customers. All power had been restored from the first nor'easter by the time the second one hit, Houston said.

The utility has had 1,600 people in the field — from PSEG and from contractors — on restoration and recovery in the two storms, PSEG said.

Her big

Grad student finds gene in fungus that menaces weakened immune systems

BY DELTHIA RICKS
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The discovery by a Stony Brook University graduate student of a gene in a pathogenic fungus — a noteworthy feat for a scientist in training — is a potential boon for people with suppressed immune systems.

Mansa Munshi, a doctoral student in the molecular genetics and microbiology department, zeroed in on the gene in a fungal species known as *Cryptococcus neoformans*, a looming menace to organ transplant recipients and people infected with HIV. Her research includes a massive search for a compound capable of quelling the gene's activity and ultimately serving as a human medication.

Beyond *Cryptococcus neoformans*, Munshi said the gene additionally is present in a significant number of other fungal species, including *Candida auris*, a multidrug-resistant superfungus that has alarmingly spread worldwide in less than a decade. It has been particularly prevalent in New York and New Jersey hospitals, with New York reporting the most cases nationwide, according to the Centers for Disease Control and Prevention.

C. auris is defiantly resistant to many potent drugs that should be able to kill it. Any new gene-specific treatment that might emerge from the Stony Brook research may eventually aid the fight against the *Candida* strain as well.

"When I first began working on this project I pretty much started with a blank slate," said Munshi, a graduate student in the laboratory of Dr. Maurizio Del Poeta, a Stony Brook physician/scientist. He has garnered an international reputation for his methods of selecting compounds to test as weapons in the war against pathogens.

Both scientists said they have found a few intriguing compounds that warrant further investigation because they may play a role in halting the gene's

CANDIDA CONCERNS

Confirmed *Candida auris* cases reported to the CDC, by state.

New York: 129

New Jersey: 52

Illinois: 19

Massachusetts: 7

Florida: 2

Maryland: 2

California: 1

Connecticut: 1

Indiana: 1

Oklahoma: 1

Total: 215

Source: Centers for Disease Control and Prevention

activity.

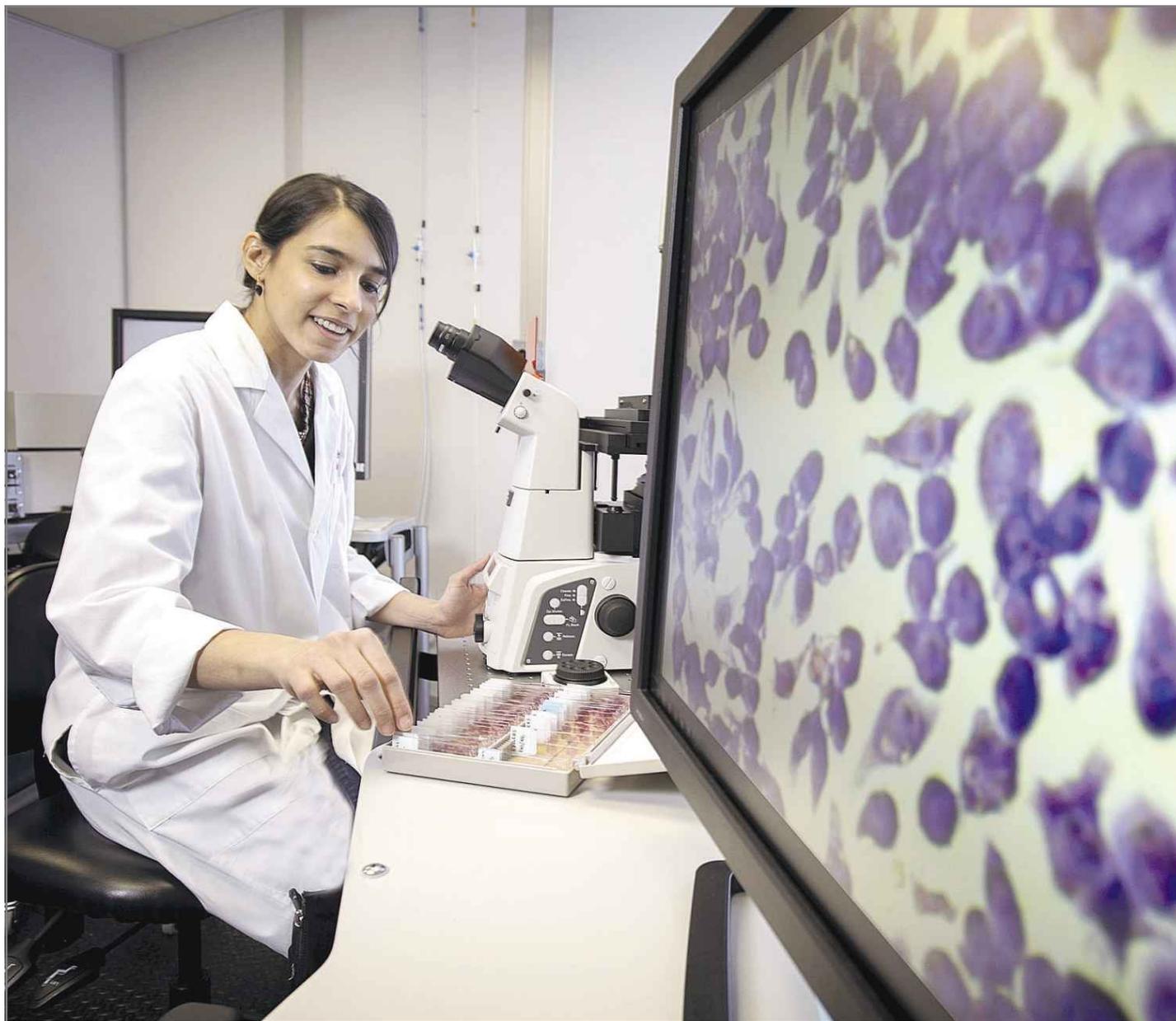
Munshi and her Stony Brook collaborators recently reported the gene discovery and research on *C. neoformans* in the journal *Cell Reports*.

She has dubbed the gene Cer1. It is a tiny snippet of DNA that carries the genetic blueprint for ceramide synthase, a fungus-specific enzyme that triggers the formation of lipid molecules that cells — whether human or fungal — use for a variety of self-sustaining purposes.

C. neoformans, the fungus that Munshi studies, uses lipids as building blocks in a vast array of complex molecules that not only enhance fungal survival in the environment but also in the bodies of people who become infected.

The fungus is harmless to healthy people, but a notorious cause of fungal pneumonia and fungal meningoencephalitis, a brain infection that can be fatal

SBU breakthrough



Mansa Munshi, a genetics graduate student at Stony Brook University, views fungal pathogens in the Del Poeta lab at the school.

in organ transplant recipients, people infected with HIV, and others with a compromised immune system, Munshi said.

Infection occurs upon inhaling fungal spores, which are in the environment. Worse, current treatments are not always effective. Among immunocompromised patients the troublesome issue with this organism is not drug resistance by the fungus but its persistence in people who have lost all shields against infection.

"In a lot of patients with lowered immunity, their bodies are

not strong enough to control the infection. This pathogen can survive in the blood and spread to the brain," Munshi said.

About 220,000 new cases of the infection are reported annually worldwide in patients with full-blown AIDS, the disorder that emerges in those with HIV who become vulnerable to a range of invasive fungi, bacteria and viruses.

C. neoformans and the broader family of cryptococcal fungi infections are so burdensome in developing countries

that the World Health Organization created guidelines in 2011 stressing rigorous methods of diagnosis, prevention and patient management.

"We are trying to find a drug that can control the activity of this gene, something that will make *C. neoformans* totally debilitated so that it won't be able to spread throughout the body," Munshi said, noting that all fungi pose treatment difficulties — even toenail fungus, which can be persistent.

Fungi, which are yeasts, increasingly are characterized

by problems of multidrug resistance, an emerging health care crisis that affects hospitals globally.

In New Jersey, Dr. David S. Perlin, executive director and professor of the Public Health Research Institute at Rutgers New Jersey Medical School, said he welcomes new approaches to potentially deadly fungal infections, especially *C. auris*.

"New antifungals with novel mechanisms of action are desperately needed, especially as multidrug resistance to exist-

ing drugs is becoming more common," he said.

Perlin said he hopes the Stony Brook team is on the right track.

"It may well be a viable approach and should be explored with *C. auris* and other *Candida* species," Perlin said of blocking the activity of the *Cer1* gene.

"The key is whether *Cer1* or its equivalent in *C. auris* also plays a critical role in ceramide synthesis that cripples or kills the cell," he said.

Perlin and colleagues are working on a new method to rapidly and accurately identify the deadly *C. auris* in swabs from patients and hospital surfaces.

C. auris was first identified in Japan in 2009 and has since spread around the world. Of the 215 cases reported in the United States through Jan. 31, the most recent date for complete statistics, 129 have been reported in New York and 52 in New Jersey. The superfungus can spread to patients through medical equipment, such as catheters and ventilator tubing. But there are other modes of transmission, Perlin said.

Most fungi are not passed person to person, but such is not the case when it comes to *C. auris*.

"*Candida auris* . . . persists on skin and on environmental surfaces, and it can be easily transmitted from person to person. This is highly unusual, which makes *C. auris* dangerous to high-risk patients in hospitals, especially when strains become multidrug resistant," Perlin said.

Del Poeta, meanwhile, noted that dozens of compounds are being screened to determine their capacity to block *Cer1* gene activity.

A problem with some existing antifungals, Del Poeta said, is their high level of toxicity, something the Stony Brook scientists aim to avoid. He said the thrust of the research is to find a compound that is active against a very specific target.

"We are going after a single lipid pathway," he said. "We have been using the same antifungals for the past 20 years. It's time to come up with something new."

SBU COMMUNICATIONS / JOHN GRIFFIN