



## RESEARCH

# CUMC Study Finds Brain Pathway Linking Stroke and Alzheimer's Risk

By Record Staff

For years, neuroscientists have known that the risk of Alzheimer's disease is nearly doubled among people who have had a stroke. Now researchers at Columbia University Medical Center (CUMC) have found a process in the brain that may help explain the link between Alzheimer's and stroke.

The findings are published in the March 13 issue of *Neuron*.

Alzheimer's disease is associated with increased production of toxic beta (A $\beta$ ) peptides. In the CUMC study, results showed that A $\beta$  production rises when there is an increase in production of a certain peptide, p25, known to occur following a stroke. The researchers identified a pathway whereby higher levels of p25 led to enhanced activity of a secretase that generates A $\beta$ .

When the activity of the secretase was reduced, either using a kinase inhibitor or by genetic manipulation, researchers found a decrease in A $\beta$  production in the brain. The results indicate that the pathway may be a treatment target for Alzheimer's disease.

Karen Duff, professor of pathology at

CUMC and the Taub Institute for Research on Alzheimer's Disease and the Aging Brain, and lead author of the study, said the finding connects the dots between p25 and increased production of amyloid beta, and the pathway could explain why the risk of Alzheimer's disease is significantly higher following a stroke. "However," she said, "we still need to verify that this pathway is actually set in motion after a stroke; right now, the data is still circumstantial."

Duff's laboratory is currently working on experiments to verify the pathway's involvement using human post-mortem tissue of stroke patients.

The specific pathway investigated was shown to be most active in young mice, as compared to older mice, suggesting that the pathway may not be implicated in late-onset Alzheimer's disease, the most common form of this neurodegenerative disease.



Karen Duff, professor of pathology at CUMC

Alzheimer's disease, which affects 45 million Americans, is categorized as either early-onset or late-onset. The early-onset form is rare and tends to affect those between the ages of 30 and 60. The late-onset form is much more common—accounting for 90 percent of all cases—and tends to affect those aged 65 and older.

The Taub Institute at CUMC is a multidisciplinary group that has forged links between researchers and clinicians to uncover the causes of Alzheimer's, Parkinson's and other age-related brain diseases, and discover ways to prevent and cure these diseases.

## THE SENATE APPROVES TWO DEGREE PROGRAMS

By Tom Matheuson



The University Senate needed only 45 minutes to complete its agenda on Feb. 29, adopting two degree programs: the Executive MBA—Global Asia, a single degree joining the business schools of Columbia, London, and Hong Kong universities; and the MS in Curatorial, Critical, and Conceptual Practices in Architecture.

President Lee C. Bollinger said an announcement was imminent on next year's financial aid packages (it came on March 11). Sen. Eric Wang (CC) asked for details, particularly for international students like himself. The president said he anticipated no increase in aid for international students next year, and declined to provide further details. He did say Columbia is not as rich as some of its peers and must draw exclusively on funds already allocated for financial aid. He added that enhancements by Harvard and other schools will provide major grants to families making up to \$200,000 a year. At Columbia, he said, "we think what resources we have should be principally devoted to lower-income and very moderate-income [students] as a way of preserving the institution's commitment to the national goal of having mobility across classes in the society."

Meanwhile, Sen. Daniel Savin (Research Officers), an astrophysicist, said backlogs in Accounts Payable and Purchasing are forcing Columbia scientists to wait a month for equipment that colleagues at peer institutions receive in a few days, and make it impossible to order supplies from vendors who haven't been paid for previous orders. "Each of these operational issues is making it difficult for ... many of the faculty, research officers and students at this major research university to carry out our work," Savin said. He asked for a report from the administration at the next plenary.

Asked about talk in Congress of compelling wealthy universities to spend larger fractions of their endowments, Bollinger said conventional wisdom—that long-term averages of 8 percent investment returns and 2-to-3 percent inflation rates justify a spending rate of about 5 percent—may look strange after several years of near 20 percent endowment returns, tuition hikes above the Consumer Price Index, and some large institutional endowments. At such times, he said, "every president, every dean, every provost believes they could do so much more with a little bit more money than any one else could, and we're always in a special moment. Trustees, by definition, should be thinking about the long-term view, so they really should be the ultimate check on this. My own view is that for limited purposes—especially where it can be justified as a major investment in the institution—there should be exceptions where the spending rate is increased. I think there is a sense that at this particular moment that is an appropriate thing to do."

Trustee Chairman William Campbell will be the Senate's guest at the next plenary, on April 11 at 1:15 p.m. in 501 Schermerhorn. Anyone with a CUID is welcome.

*The above was submitted by Tom Matheuson, manager of the University Senate. His column is editorially independent of The Record. For more information about the Senate, go to [www.columbia.edu/cu/senate](http://www.columbia.edu/cu/senate).*

## Columbia Hero, Faster Than a Speeding Subway, Leaps to the Rescue

By Renée Walker

What started as an ordinary Friday commute turned into a daring subway rescue by a Columbia worker, as Veeramuthu "Kali" Kalimuthu, assistant mechanic for the facilities department in Undergraduate Residential Operations, leaped onto the tracks to rescue an unidentified man.

Kalimuthu, who usually catches a ride home to Queens with a co-worker, on March 14 decided to take mass transit. At about 5 p.m. at the 116th Street station, he saw a man across on the uptown platform tumble over the edge and land on the tracks, where he lay motionless.

Subway commuters waiting on the uncrowded uptown platform began yelling for help and running in different directions, with one

person racing upstairs to inform the MTA employees at the subway station's booth.

That's when Kalimuthu dropped his tool bag and ran toward the commotion. "No one was doing anything. They looked confused, and I saw him lying there," he said. He jumped from the crowded downtown platform onto the tracks. Crossing the tracks, he took care to avoid the third rail, which supplies direct current to the subway trains. He grabbed the man, who was wearing a backpack, and wrapped his arms around his body. After an unsuccessful initial attempt, Kalimuthu hoisted him into the hands of two other men on the platform—one of whom was fellow facilities mechanic Marcus Santos.

The three men lifted the unidentified man onto the platform. Then Kalimuthu re-crossed the tracks to return to the downtown platform and recover his work tools, as bystanders burst into applause. With quick advice to Santos that the man be moved toward the less crowded stairway, Kalimuthu caught his train ride home. The entire incident took place in less than six minutes.

When asked why he decided to help the man, and then subsequently re-crossed the dangerous train tracks, Kalimuthu said, "I didn't stop and think; I just reacted. The same way I came was the same way I decided I should go back. I just thought to get my bag and head home."

Kalimuthu, who never saw the rescued man's face, hopes that he is doing well. He, too, would have gone unidentified had he not been wearing his facilities jacket, which got muddied following the incident. "The recognition is nice. I accept it," said Kalimuthu, who has put in 11 years of service to the University.

Despite Kalimuthu's soiled jacket, his wife and children didn't initially believe his story. Still, his actions come as no surprise to his fellow co-workers in residential operations, who each mark the incident as telling of his character.

Kalimuthu has received many kudos for his heroism. Columbia President Lee C. Bollinger called to thank him, as did the office of Mayor Michael Bloomberg. After being featured in the *Daily News*, he appeared on almost every local TV news program and was named cable station NY1's Person of the Week and *People* magazine's "Hero of the Week".



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