

UConn researcher fabricated data, investigation finds

By **William Weir** / The Hartford Courant

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HARTFORD, Conn. - A three-year investigation into the work of a University of Connecticut researcher who focused on the health benefits of resveratrol - a chemical in red wine - found 145 instances of fabricated research.

Dipak K. Das, a professor in the Department of Surgery and director of the Cardiovascular Research Center at UConn Health Center, was the focus of the investigation conducted by the university's faculty.

An anonymous tip into "research irregularities" triggered the investigation, a university spokesman said. As a result of the investigation, all externally funded research in Das' lab has been stopped and the university has declined \$890,000 in research grants.

Officials from the UConn Health Center have sent letters of notification to 11 scientific journals that have published Das' studies. The health center officials worked with the U.S. Office of Research Integrity during the investigation and submitted the 60,000-page report of its investigation to the office, which is now conducting its own investigation.

"While we are deeply disappointed by the flagrant disregard for the university's code of conduct, we are pleased the oversight systems in place were effective and worked as intended," Philip Austin, interim vice president for health affairs, said in a prepared statement. "We are grateful that an individual chose to do the right thing by alerting the appropriate authorities. Our findings were the result of an exhaustive investigation that, by its very nature, required considerable time to complete."

Das earns a salary of \$184,396. UConn spokesman Chris DeFrancesco said he "remains employed by the UConn Health Center pending dismissal proceedings per university bylaws."

Connecticut Gov. Dannel P. Malloy answered a question about the university's findings at a storm-preparedness press conference at Simsbury Town Hall on Wednesday afternoon. A reporter asked the governor how the findings might affect his ambitious plans to develop a research cluster around the health center, including the construction of a building for the Maine-based medical research firm Jackson Laboratory.

"Do I think it's helpful? The obvious answer is no," Malloy said. But he pointed out that the university began this investigation itself and brought its findings to the appropriate external authorities.

Das, 65, of West Hartford, has been with the health center since 1984 and was granted tenure in 1993. In recent years Das has researched herbs and plant-derived compounds and their role in cardiovascular diseases. Das' work investigated the potential health benefits of resveratrol - including whether it prevents coronary heart disease, whether it acts as an anti-inflammatory and also whether high doses of the antioxidant, which is derived from the skin and seeds of grapes, can kill cancer cells.

The university's investigation began in December 2008. Bruce Koeppen, dean of academic affairs, appointed an investigation team, which collected all of Das' studies and examined them for irregularities. The report details several instances of data falsification, manipulation of images with photo software.

Much of the evidence gathered in the investigation was taken from the computer in Das' office, to which no other lab members had a key.

The report states that six other researchers were suspected at one point of having a role in the data manipulation. On the advice of the Office of Research Integrity and the office of the Connecticut attorney general, the investigation

focused specifically on Das. The six other researchers were referred to the health center's research misconduct committee. DeFrancesco said they "are subjects of inquiry but to date there have been no findings against them."

According to the report, Das stated that he had no knowledge of any of the allegedly manipulated figures. Based on testimony of other Cardiovascular Research Center staff, the investigators found that the professor's statement "lacks credibility." As senior author of the papers, the report states, he bears responsibility for any fabrication that occurred, and evidence "strongly suggests that Dr. Das himself was directly involved in fabricating figures for publication."

The report states that "one of the curious aspects" of the case is how responsibilities were divided on certain studies. Some lab members - even when they were the first authors on the papers - had no role in biochemical analyses or preparing figures. Compartmentalizing the work in such a way, according to the report, would make it harder to trace any fabrication to its origin.

David Rowe, director of the Center for Regenerative Medicine and Skeletal Development at the health center, said it is likely that the findings on Das will lead to greater "scrutiny to make sure we are documenting things ... to make sure everybody is playing by the rules of what science is all about."

Rowe said he doesn't think this situation will impede the university's efforts to attract researchers and scientists as part of the Bioscience Connecticut project. "As long as the school deals with this ... in a responsible, open way," he said, he didn't think there would be any ill effects.

He was not certain of the details of Das' case but said the margin between "successfully spinning your work and taking it a little beyond what the data really is - how you say it and how honestly you say it - is always a blurred line."

"If you are blatantly honest about your failures, you will get nowhere," Rowe said. "The fact is that reviewing agencies want success. Therefore you spin your data in the most favorable way. That's where the dangers begin to come - that you

spin it a little more than you can justify and then one thing leads to another. It's a very mushy, very fuzzy line."

Chandan K. Sen of the College of Medicine at Ohio State University who is co-editor in chief with Das at the journal *Antioxidants & Redox Signaling*, said it is too soon to say what action the journal might take as a result of the report.

ue process is observed," he said. "I have to do my due diligence."

Sen said Das has published hundreds of papers, funded academic awards, supported science in developing countries and has earned "a lot of respect."

"This is clearly a tough situation," Sen said, "and we have to make sure we do our due diligence, make sure we are objective and then do whatever the process dictates."

The investigation began with a preliminary review of 101 papers that came out of the Cardiovascular Research Center between 2002 and 2009. The team then focused on 26 of these papers, and on all of them Das was listed as one of the authors. Nine of the studies focused on resveratrol, a few of which compared the cardiovascular benefits of red wine to white wine. Another looked at whether freshly crushed garlic was better for the heart than processed garlic (it found that it was), and another explored broccoli's role in protecting mammalian hearts.

One focus of the investigation was a set of images in these papers representing "Western blots" - an analytical technique used to detect certain proteins in tissue samples. Generally, these experiments are represented in papers with a series of bands, one for each experiment conducted. The investigation found several instances of these images being manipulated: Some were spliced together, some duplicated, some erased. Many bands that had nothing to do with the particular experiments were cut and pasted into the studies. The report states that these kinds of manipulations can be done simply with such programs as Adobe Photoshop.

To add to the investigators' suspicion, the first instances of these manipulations

began in 2005, when "there was apparently no one working in the lab with the expertise to prepare Western blots." Evidence from Das' computer shows that a lab technician had been asked to do some Western blotting, but Das was unhappy with her work and discontinued her salary, according to the report.

The investigators found such manipulations in 23 of the 26 papers. Similar fabrications were also found in three grant applications and in one communication with the editors of the American Journal of Physiology, a journal for which Das once served as associate editor. A publications staff member for the American Journal of Physiology would not comment Wednesday about Das.

The authors of the report note that, for the sake of expediency, the investigators focused only on the "most egregious or obvious examples" of manipulation.

Retraction Watch, an independent website that monitors retractions in life sciences research, reported Wednesday that Das appears to have had a relationship with a Las Vegas resveratrol maker called Longevinex. The article in Retraction Watch stated Das shows up in a lengthy video touting the nutrient as the next aspirin. Retraction Watch said the infomercial is guided by an "investigative reporter" named Gailon Totheroh, who is affiliated with the Christian Broadcasting Network. The company's website also quotes Das and his research at length.

California state business records also list Das as an associate of Interhealth Nutraceuticals, a company based in Benicia, Calif. A company press release on its resveratrol-based product Protykin cites Das' research, but doesn't mention any professional association between Das and the company.

At least one resveratrol expert said the damage from Das' apparent fraud to resveratrol research will be minimal. Retraction Watch said Nir Barzilai, of Albert Einstein College of Medicine, said he'd heard of Das but never met him. Barzilai also noted that most of Das' list of publications "seem to be in lower-impact factor journals."

"There are many investigators who are working on resveratrol," Retraction Watch quotes Barzilai as saying. "That doesn't mean we know the whole truth. But

Rome wasn't built on Dr. Das."

The 11 publications notified by health center officials are the American Journal of Physiology - Heart & Circulatory; Antioxidants & Redox Signaling; Cellular Physiology & Biochemistry; Free Radical Biology; Free Radical Research; Journal of Agriculture and Food Chemistry; Journal of Cellular & Molecular Medicine; Journal of Nutritional Biochemistry; Journal of Pharmacology and Experimental Therapeutics; Molecular & Cellular Cardiology; and Molecular & Cellular Chemistry.