



## FOR IMMEDIATE RELEASE

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## Continued Smoking Can Spread Cancer, Research Shows

*UC Merced biochemistry Professor Henry Jay Forman discovers that tobacco smoke activates an enzyme that causes cancer cells to spread to other parts of the body*

MERCED, Calif. — Cigarette smoke cannot only cause cancer, but it's also responsible for the spread of it, according to research by UC Merced biochemistry Professor [Henry Jay Forman](#).

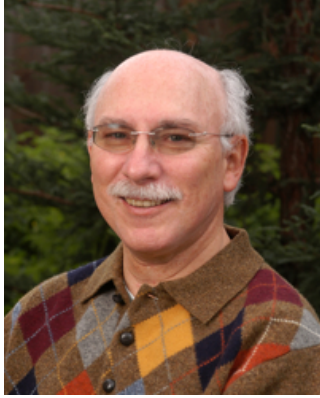
Forman discovered tobacco smoke activates an enzyme — called Src — that causes cancer cells to spread to other parts of the body. The study will [appear](#) in the April 15 edition of *Free Radical Biology and Medicine*.

Cigarette smoke is the major cause of lung cancer, Forman said, but nearly half of lung cancer patients remain active smokers. Nonetheless, researchers haven't understood how cigarette smoke causes cancer to metastasize.

The lab was also able to prevent cigarette smoke from activating the enzyme by introducing an antioxidant. Forman's discovery could prove useful in the fight against

### Quick Facts

- UC Merced Professor Henry Jay Forman discovered that tobacco smoke activates an enzyme that causes cancer cells to spread.
- The lab was able to prevent cigarette smoke from activating the enzyme by introducing an antioxidant.
- Forman's discovery could prove useful in the fight against cancer, as it creates more understanding on how it spreads and how antioxidants can help combat this.



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Forman will present his findings on April 21 at the [Experimental Biology 2012](#) conference in San Diego.

Forman coauthored the paper with a professor from the University of Padova in Italy. Forman served as a visiting professor during the summer while also conducting research.

In another paper, recently published in the Journal of Biological Chemistry, Forman collaborated with investigators at USC who are experts in looking at how cells maintain themselves using proteasome, which degrades old and damaged proteins. When cells are under oxidative stress, the proteasomes work faster to remove damaged proteins.

However, the lab discovered the signal used to increase a cell's defenses doesn't happen in old age, causing cells to die and turn malignant. The findings offer more insight into age-related problems, such as Alzheimer's disease.

Forman will continue his research this summer, focusing on three projects: understanding how differences in the expression of a particular enzyme increases human susceptibility to air pollution; studying how people with sickle cell trait may have a sickle cell crisis when doing severe exercise; and studying how cigarette smoke activates an enzyme that regulates changes in lung cancer cells that promote metastasis. The three projects are funded by the National Institutes of Health.

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*UC Merced opened Sept. 5, 2005, as the 10th campus in the University of California system and the first American research university of the 21st century. The campus significantly expands access to the UC system for students throughout the state, with a special mission to increase college-going rates among students in the San Joaquin Valley. It also serves as a major base of advanced research and as a stimulus to economic growth and diversification throughout the region. Situated near Yosemite National Park, the university is expected to grow rapidly, topping out at about 25,000 students within 30 years.*