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## RIT students can see the dangers of smoking

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Staff writer

HENRIETTA — Rochester Institute of Technology student Joe Leitten is a pack-a-day smoker, but he plans to quit soon, because of what he learned from his senior project.

The 23-year-old mechanical engineering major is the leader of a 10-student team that designed and built a machine that simulates what happens when a person smokes a cigarette.

A thick, brown muck of tar and other particles in cigarette smoke accumulates on paper filters in the machine.

"It opened my eyes," said Leitten, of Perry, Wyoming County.

"They put out all those ads about why you shouldn't smoke, but this is much more visible," he said.

The simulator is enclosed in a large Plexiglas box that catches smoke from the burning ends of cigarettes and carries it out of the building through a ventilation hose on the top.

On the other end of the cigarette, smoke is drawn into the simulator through a molded plastic "oral cavity" complete with a throat, trachea and larynx modeled after actual humans.

The students also created two separate "mouths," one made from an adult dental cast and one from a teen.

Sensors in the device track what particles are inhaled in the smoke and where they wind up in the body.

Built at a cost of between \$10,000 and \$15,000, the machine will be used in research funded by the American Cancer Society and conducted by Risa Robinson, an associate professor of mechanical engineering.

Robinson will use it to compare normal cigarettes to so-called "safe" cigarettes that supposedly have less tar and other dangerous ingredients.

"I think it's awesome. I think they did an amazing job. They started with absolutely nothing," Robinson said.

All students in RIT's Kate Gleason College of Engineering are required to complete a senior project. About a dozen teams of students demonstrated their work Friday. Other projects included robotic arms and underwater lights.

Adam Davenport, 23, an electrical engineering major from North Syracuse, said the smoking simulator team was not his first choice for a senior project, but he wound up enjoying the experience.

"It was a lot of fun to work with. It wasn't just a lot of math and formulas," said Davenport.

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