

The Tagliatela College of Engineering

In Engineering, a Nose is Not Just a Nose

Nancy Savage is spending her summer making a nose for NASA.

As a chemist who knows noses, Savage, an assistant professor of chemistry and chemical engineering in The Tagliatela College of Engineering, says this is no ordinary one. The nose, which will be electronic, will consist of a series of chemical sensors that can detect a variety of gases. Although such a device has a variety of uses, Savage is looking to the cosmos for its worth.

“For the International Space Station or a space shuttle or other space vehicle, you don’t want to bring along equipment that requires a certain expertise to run,” she says. “Devices like this that are non-specific and not very expensive can be really advantageous for that type of environment. You put electronic noses in a number of different locations and let them monitor the air. If there’s a problem, the user can just look at the nose to see what it’s smelling.”

Savage, who studied gas sensors while working on her doctorate at Ohio State University and in post-doctoral work at the National Institute of Standards and Technology in

“Electronic noses can tell us classes of gas molecules . . . and that there is a leak of some sort of gas in the atmosphere,” she says. “What kind of gas, we can’t tell yet.”

Gaithersburg, Maryland, will be helped by Michael Seeber ’09, who is majoring in chemistry and forensic science. The two have secured funding from the Connecticut Space Grant Consortium, a NASA-funded program. Savage won a \$6,000 grant for the project, and Seeber was awarded a fellowship for \$4,500.

Although Savage is something of an authority on the gas sensors, this summer she hopes to answer the question: Can types of sensors be developed that precisely identify the type of gas invading the environment?

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So far, Savage has focused on the internal workings of the nose, so she doesn’t have an actual rendering of what it will look like. She’s hoping, she says, that engineering faculty will assign students to work on the nose’s form — a nose job, so to speak. “That,” she says, “will be a great project.” ♦

Nancy Savage holds the beginnings of this summer’s study

