While summer doesn’t officially begin till June 21, smog season has kicked into full gear this month. Smog season doesn’t actually mean that smog is a problem all the time. Instead, it signifies a period where the status of smog levels in Atlanta is monitored and made known to residents. However, it is still an issue to be aware of.

The primary component of smog is ozone, which is formed as a by-product of two other air pollutants, nitrogen oxides and volatile organic compounds, which in turn come from vehicle emissions, industrial plants, and other sources. From May 1 to September 30, a team of forecasters, as part of the Clean Air Campaign, issues Smog Alerts on days when the ozone level is expected to exceed federal limits. Smog alerts fall into color-coded categories, based on an Air Quality Index, which is basically a measure of ozone levels. The Green, category (AQI 0 to 50) is the best, followed by the Yellow, (AQI 51 to 100). A smog alert occurs once the AQI exceeds 100, in which case the color codes are Orange (unhealthy for sensitive groups), Red (unhealthy), and Purple (very unhealthy). At the beginning of May, ozone levels were at the Green, or low, but, however, as we approach the end of the month, smog levels have increased into the Moderate range, and we have even had one Orange alert.

Sensitivity to smog varies from person to person. However Elise Beckeiser, an aerospace engineering major who recently returned from out of town, comments, “I got back from Colorado on Sunday, and as soon as I stepped off the plane, I noticed the haze and the smell.”

For native Atlantans, smog is nothing new. Ken Cheng, a biomedical engineering major who is living on campus this summer, says he doesn’t really notice the smog.

“I guess we’re used to it,” said Chang. Another reason why Ken and other students haven’t been affected as much by smog yet is because smog season has not reached its peak. Dr. Jim St. John, an Earth and Atmospheric Sciences professor who is also a member of the Partnership for a Smog-Free Georgia, says that the worst smog usually happens from mid to late July through mid-August. The reason, he explains, is because during these months the air above Atlanta stagnates; unlike other months, there are no large air currents to push the air through Georgia.

“IT’s little like not flushing a toilet,” said St. John. The heat also plays a part, because the reactions that create smog take place more easily. Also, in hotter weather, there is more demand for energy, in the form of air conditioning, which causes power plants to produce more pollution.

So what exactly should students be aware of? Ground-level ozone is harmful to one’s health. When inhaled, ground-level ozone can irritate and inflame the passages that carry air from the mouth and nose to the lungs. Scientific tests have demonstrated the negative effect of ozone on the human body. Also, during the smog season, starting now, we know that people report more respiratory symptoms, use more respiratory medications, make more emergency room visits, and are hospitalized more.

People who are vulnerable to smog, such as those with asthma, should check the smog alert on a regular basis, especially as peak season approaches. Also, even people without asthma can be bothered by smog even at moderate levels so pay attention to your own symptoms and act accordingly. St. John advises students to just use their common sense when it comes to smog. For example, take advantage of the SAC and exercise indoors instead of outside. If you want to exercise outside, the morning or late evening hours is the best time. And even if the smog does not bother you noticeably, minimizing exposure is probably a good idea anyway, because, as St. John cautions, “we don’t really know anything about the long-term effects.”

There are other ways in which one can do to help the problem? The Clean Air Campaign’s website (www.cleanaircampaign.com) claims that currently the smog is improved in the past few years. Atlanta is exceeding the smog limit less times.

It’s that time of year again: Smog Season

Atlanta’s annual smog season brings to light new environmental concerns and related work concerns going on at Tech.

By Jennifer Lee
Contributing Writer

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Getting in shape with new options on campus

By Narendra Sehahdi
Contributing Writer

Despite the numerous health campaigns which include smoking-kill ad-campaigns and one-drink-a-day-promotions, many people take their health for granted because they feel they have the power to overcome anything. While giving up smoking or giving up alcohol may be one step in the right direction, there are plenty of other things that students can do to improve their health. Usually it takes something serious to happen before a student changes his or her attitude toward their health. Sometimes students feel overwhelmed by their academics and fail to take the appropriate steps to maintain their health. However, there are plenty of ways to stay fit at Tech that can work around any academic schedule.

The Student Athletic Complex offers a wide variety of fitness and sport instruction classes through the options program. Options classes are noncredit classes that students pay a additional fees for. Students can take anything from ballet, dancing, aerobics, to martial art. Summer is a great time to start working out and try a new class or sport because of the weather, vacation time, and generally relaxed class schedules. Popular fitness classes include aerobics, water fitness classes, GIT FIT, and personal fitness training.

“The popular GIT FIT program is a structured workout program for participants of all fitness levels,” said Aubhaly Monte, the graduate assistant for the SAC Options classes.

Aerobics classes include step, cardio-kickboxing and pilates, a new type of class that is similar to yoga and focuses on strengthening and stretching the body. There are two new Pilates-certified instructors that teach the class. Water fitness classes are a popular class to take during the summer months and are held in the bubble pool. Motz said the classes are held in shallow water, so there’s no need to even know how to swim.

Computer Engineer major, Chirag Gandhi says “more people have gone into exercising now because of the importance stressed on it in HPS classes.”

In addition to options classes, the SAC offers a huge range of athletic equipment. The new SAC II facility will be expanding on current facilities, and will offer more machines, and an enclosed swim.

Campus Research Review

Wearable computing creates stir

By Kimberly Rieck
Focus Editor

When Dr. Thad Starner was a student at MIT, he became interested in how to expand his memo- ry. Starner said that he realized that he wasn’t retaining a lot of the information he learned in his classes there, and given the large amount of money he had spent on his edu- cation, he wanted to do something about it. He thought the ability to overlay computer graphics and text on the real world was powerful, and he wanted to design that interface.

In 1993, he came up with a wearable computer system that he could use. He designed the system to allow rapid storage and retrieval of information in any situation. Starner uses the system for a variety of tasks including taking notes, and he even wrote his doctoral thesis using a wearable computer.

Over the years, his wearable computer has become more powerful. In 1996, he was using a 100 MHz 486 computer with a 1 gigabyte hard disk. Currently his wearable computer is a 266MHz Pentium MMX, with a 10 gigabyte hard disk. One of the hardest parts was developing a display system to suit the system, but recently Starner has fixed those problems.

Suddenly, for the first time, our computers have the ability to see and hear the world from our perspec- tive. Instead of being confined and blind sitting on our desks or in our pockets, our computers might be able to observe what we do all day, understand what is important to us, and act as a virtual assistant who helps us on a second-by-sec- ond basis” said Starner.

There are some limitations to wearable computers. Starner said it is difficult to bring large amounts of information in a few seconds because anything longer than that be- comes unusable. There is also a system that is more power and features in wearable computers requires a fast- er cpu, bigger disk, and wireless net- work connection, and those would in turn require more batteries and weight. A consequence of the add- ed batteries and weight would be high heat temperatures in a small space. The challenge is to design systems that take little power, space, and last a while; Starner’s current system gets 13 hours of power.

Interestingly, there are also privacy concerns. A person could access a claims Databases, and last a while; Starner’s current system gets 13 hours of power.

Interestingly, there are also privacy concerns. A person could access a claims database, send a financial records. Therefore advanced security measures are needed. Starner is also a part of the Con-
textual Computing Group. His research group focuses on developing and interfacing for the computer to be aware of what users are doing and to assist them. Starner and his group have received several million dollars in research grants including a $1 million grant from NSF. Several of the research projects have focused on helping individuals with disabilities, and diseases.

One example is the Mobile Sign Language Translator. In the project, Helene Brashear, a Ph.D. student has extended Starner’s early graduate work in American Sign Language. It involves developing a wearable computer system that tracks users’ hand language as they sign in American Sign Language. The application then translates signs into English text on the user’s computer display. It enables the user to communicate with non-Sign users. Brashear is investigating various ways of making the system work in a variety of lighting conditions, stereoscopic cameras, and structured laser light.

Another related assistive technology project is the Gesture Pendant. The pendant was featured on The Today Show. It is a wearable system that recognizes and translates simple hand gestures into commands for home appliances such as a stereo. The gesture pendant is a lightweight wireless camera system that is worn as a piece of jewelry, and it uses infrared light to track hand movements. It is also being seen as a possible aid in the monitoring of Parkinson’s disease.

Starner envisions great things for the future of wearable computers including replacing personal computers one day. He thinks the technology can progress to the point that everyone has a virtual personal assistant that would remind users of appointments, schedule meetings, and open relevant notes and documents as the user talks about different topics. Also services like instant messaging would be combined for a new means of communication. Starner said that one example would be if someone had to fix a car, and a car manual would appear in front of the user’s eyes to help. Other products such as the Gesture Pendant, and the Parkinson’s Tremor Monitoring system will be able to help those with disabilities, and illnesses.

Thad Starner’s wearable computing innovations have landed him and his computing group millions in grant money and national recognition. He envisions a day when such technology will be as accessible as PCs.