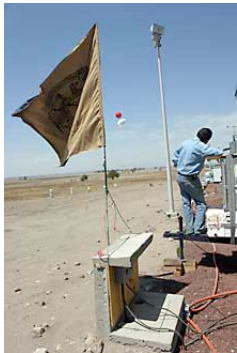


## MILAGRO finds high levels of pollution

Scientists from the MILAGRO campaign have detected pollutants like formaldehyde, a cancer-producing chemical derived from combustion and home products used in the city.

by Iván Sosa

**Mexico City (Mar 22, 2006).**- According to the MILAGRO campaign (Megacity Initiative: Local and Global Research Observations) there are concentrations of up to 55 thousand microparticles in a cubic centimeter of Mexico City's atmosphere.



*One of the three monitoring supersites installed to measure pollutant particles in Mexico City is located in Tecamac/ Photo: Miguel Fuantos*

Particles smaller than three micrometers (one micrometer represents one-thousandth of a millimeter) have been detected in the atmosphere by one of the many instruments used to measure hundreds of pollutants produced by the city each day.

Telma Castro, research scientist of the Center for Atmospheric Sciences of the UNAM indicated that “there are particles that are bigger than 10 micrometers that are rejected by the respiratory system but there are others that are smaller and penetrate the body. They are so small in size that they manage to filter into the blood stream”.

Among the pollutants detected by the MILAGRO scientists are formaldehyde particles, a cancer-producing chemical derived from any combustion process and some home products.

“It is one of many pollutants not usually monitored. There are no regulations that define their risk level in relation to the health of the population, even when in the city we find them in high quantities”, explained Gerardo Ruiz, scientist of the Center for Atmospheric Sciences of the UNAM.

Both specialists are part of a group working at the Technological University of Tecamac, one of the three ground measurement supersites set up in order to study pollution in the city with the help of six airplanes and nine satellites.

Telma Castro is no stranger to the pollution problem; by doctor's orders she has chosen to live in Cuernavaca in view of the fact that one of her children suffers from respiratory problems.

Gerardo Ruiz, however, left Cuernavaca and moved to Mexico City in order to live closer to his work at the UNAM, although he recognizes that “our life expectancy, our quality of life, is less”.

Another of the factors being studied by the environmental experts at the Tecámac supersite is the effect that urban pollution has on changes of the local climate.

“The aerosol particles absorb or disperse sunlight. The hypothesis states that by preventing the rays of sunlight to fully reach the ground this creates changes in the city’s own inner-climate.

“It is an experiment that I plan to conduct in several cities worldwide in order to determine the influence that atmospheric pollution has on the planet’s climate change” indicated Jim Greenberg, researcher for the U.S. Center of Atmospheric Sciences.

Scientists venture out to plant the seeds of knowledge among the students from the University of Tecámac. Young students benefit from talks and information as they approach the subject of atmospheric pollution as a probable career option for future studies.

### **The creation of Mexican experts**

Miguel Zavala studied mechanical engineering in Guanajuato and today is a renowned specialist in the scientific “chase” for pollutant vehicles.

After receiving his masters in environmental engineering with Professor Gerardo Mejia at the Monterrey Technological Institute, he has been one of the people who have been granted the Molina Fellowship sponsored with the prize money from the Nobel Prize in Chemistry.

“He used his knowledge of the city and of the vehicles to conduct studies using the Aerodyne mobile laboratory that is equipped with instruments to measure the levels of pollution produced by a moving vehicle”, commented by Luisa Molina, Coordinator of the MILAGRO Campaign.

Currently, Zavala is one of the research scientists conducting the MILAGRO measurements, a research project that will generate information to study other polluted cities during the next five years.

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