University of Cincinnati professor Erin Haynes was in Marietta last Thursday to provide an update on her developing study to examine the potential relationship between manganese and other metals regularly detected in the local air and health effects among area children.

"This study has taken a long time," Haynes told a small crowd of about 30 gathered in the First Presbyterian Church.

"Our first walk-through subject will be coming through the door on October 28. It will be a practice subject, to make sure all of our gear is working," Haynes said.

"It's turning out to be a very rigorous, scientific study, and we'll collect data to answer that question about health effects, particularly neurological effects, on children," Haynes said.

Haynes received $2.6 million in funding for the five-year study earlier this summer from the National Institute of Environmental Health Sciences.

Elevated levels of manganese, a known neurotoxin, have been recorded in the local air for years.

The study will also analyze the air for other potentially neurotoxic metals that have been found in the local air like lead, arsenic, mercury, cadmium, and chromium.

The manganese emissions are suspected to originate from Eramet Marietta, Inc., a large producer of ferroalloys and refiner of manganese located just a few miles outside of Marietta.

"I'm interested in what's in the air," Haynes told those in attendance.
"The purpose is not to identify 'who-dun-it.' We want to know what's in the air and what it does once it's out there," Haynes said.

The study has enough funding for only one air monitor at this time, which will be located at Marietta College. A second grant request has been submitted to secure funding for additional air monitors.

An environmental sampling team will go to homes to collect dust and soil samples from around homes, as well as test water from cisterns and wells.

Biological assessments will measure the extent to which potentially harmful metals are gathering in area children, and a battery of neurological tests will screen children for negative health effects.

David Brown, a professor at Marietta College, will be undertaking a parallel study of lichens that could help offset a lack of widespread air monitoring data for the study.

"Lichens get all the minerals they need from the air and rain and hopefully they can help give us some indication of metals being deposited in different areas," Brown said.

Brown's lichen investigation will include areas in a roughly five mile radius around Eramet Marietta, Inc.

The goal is to recruit the first subjects for the study – 7- to 8-year-old children – in November, Haynes said.

Children who participate in the study will receive $100. Their parents will receive $25.

Researchers will work in collaboration with a Community Advisory Board and the UC journalism school, where students will help develop a website for public education and outreach and sharing information on the study.

For more info, or to join the study, people can go to www.eh.uc.edu/CARES, which should be up and running this week, Haynes said.
SIDEBAR: More Going On With Manganese

The federal Agency for Toxic Substances and Disease Registry is expected to release its final health consultation for Marietta this fall. The consultation will deal with exposure to manganese and other potentially neurotoxic metals found in the local air.

The consultation was expected to be released in July, but never was.

Expanded to include Boaz and Vienna, WV, the consultation will also contain the ATSDR's recommendation on whether a community health study of manganese exposure is warranted.

Meanwhile, as Haynes struggles for funding for additional p.m. 2.5 air monitors for her study, the Ohio EPA has idled four p.m. 10 air monitors that were already up and running in Harmar, Boaz, and Vienna.

The air monitors were idled shortly after a large scale emissions release at Eramet Marietta that neither the OEPA nor Eramet officials could account for, though the incident was photographed by an OEPA employee who happened to be driving by at the time.

Meanwhile, U.S. EPA is assessing its 1992 reference concentration for manganese inhalation exposure, set at .05 micrograms per cubic meter of air. The reference concentration serves as a health based guideline for chronic exposure to airborne manganese.

A screening level review in 2002 found that new scientific evidence could cause the reference concentration to be changed, most likely downward. Local air concentrations of manganese have regular exceeded that .05 guideline, sometimes by as much as 10 times.

U.S. EPA is also undertaking a residual risk assessment of the ferroalloy industry, which includes Eramet Marietta and just one other ferroalloy facility in the U.S. The assessment will determine whether emissions control standards used by the industry are adequately protecting public health.
Eramet Marietta announced on Sept. 1 that it plans to invest $150 million into its facility over the next five years, but no permits for the improvements have yet been filed for or secured. Similar plans to construct two new furnaces and replace much of the plant's processes fell apart in 2002 and 2003 after a permit was applied for.