

MORE Science at UTSA

Environment Science and Engineering

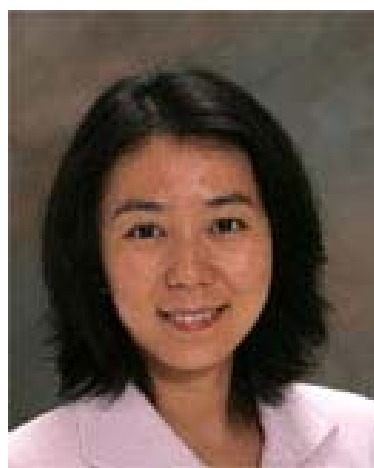
Spring 2007 Seminar Series

Where: Loeffler room (3.03.02) in the BioScience Building

When: 4:00 PM – 5:00 PM on March 2nd, 2007

Snack and drinks will be served

Speaker: Dr. Yifang Zhu



Dr. Yifang Zhu is currently Assistant Professor in the [Department of Environmental Engineering, Texas A&M University-Kingsville](#) where she teaches classes in environmental exposure assessment and data analysis. She received her B.Eng. from [Tsinghua University](#) in 1997, and Ph.D. from the [University of California Los Angeles](#) in 2003. She joined the faculty at TAMUK in 2006.

Dr. Zhu's research interests include the measurements of temporal and spatial trends of traffic related air pollutants, and ultrafine particle exposures assessment. She uses various statistical and air quality modeling tools to predict air pollutant including ultrafine particle concentrations in urban environment.

Topic: Ultrafine Particles and Freeways

Recent toxicological studies have shown that ultrafine particles ($D_p < 100$ nm) may be more toxic than larger particles. The most significant source of ultrafine particles in urban environments is motor vehicle emissions. By taking detailed measurements of ultrafine particle number concentration and size distribution at varying distances from two freeways in Los Angeles, we show that ultrafine particle number concentration near both freeways was approximately 25-30 times greater than upwind concentrations. The drop in ultrafine particle number concentrations occurred rapidly with increasing distance from the freeway, falling to 30% of peak concentration at 100 m. These studies were the first ever of this type conducted in the United States. The results from these studies provide scientists with a way to estimate exposure concentrations to ultrafine particles near roadways in order to facilitate health studies and provide major regulatory agencies critical data for future air quality standard development.