

**Preserving Diesel Exhaust Ultrafine (Nano-) Particulate Structure
in Genotoxicity Studies
to Support Engineering Development of Emission Controls**

X-C Shi¹, M Keane¹, T Ong¹, J Harrison¹, M Gautam², S-Q Li²,
A Bugarski¹, W Wallace^{1,2}

¹ US – Centers for Disease Control and Prevention (CDC) –
National Institute for Occupational Safety and Health

² West Virginia University - College of Engineering and Mineral Resources

Presented by
William E Wallace, PhD

Poster P - 10

Diesel exhaust can contain genotoxic ultrafine particles

1. **Genotoxicant content is a function of engine design & operation**

2. Diesel exhaust can be sampled and assayed to

- provide **short-term measures** of cellular genotoxicity

- while **preserving soot particle structure** as in the lung

→ **ID engine** design/operation **sources** of genotoxic soots

→ → **advise engineering control R&D**

