

Amgen Seminar Series in Chemical Engineering
in
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**Nanoparticle surface properties and
relation to particle performance in applications**

By

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Fumed silica and carbon black nanoparticles are used in reinforcement, viscosity control, sag resistance, color, etc. in applications such as coatings, adhesives, plastics and elastomers.

The performance of particles in those applications is largely determined by the interfacial interaction between particles and polymers.

This talk will discuss characterization of surfaces of nanoparticles by gas adsorption technique. Based on gas adsorption measurements we calculate works of adhesion between particles and various liquids and establish compatibility maps with different polymer systems.

Examples will be provided on how we are using this knowledge to generate comprehensive materials performance data and innovative product concepts.

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