

Sustainable Nanotechnology Conference 2015



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Sustainability is acknowledged to consist of three segments; economic, environmental and societal. The environmental aspect encompasses in many cases the technology and science of nano materials and the interaction with biological systems and the surrounding environment. The 2 year nanotechnology program at Dakota County Technical College encompasses many aspects of nanotechnology (electronics, materials and biotechnology) and also includes aspect of sustainability in multiple courses. And, rightfully, a substantial portion of nanotechnology based educational content focuses on the technical aspects of nanoscale phenomena. This presentation will address the remaining two segments of sustainability and discuss how economic and societal impacts of nanotechnology are woven into traditional technical content through case studies, experiments, and activities. Case studies presented focus on coating materials for aquatic applications and functionalized nanoparticles for disease treatment and include regulatory and material cost considerations, risk assessments and failure modes effects analysis.

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