**TRENT UNIVERSITY**
**CHEMISTRY/PHYSICS SEMINAR PROGRAM**

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**Irvine, CA 92697**
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**Wednesday, November 5, 2014**
**11:00 am**
**Science Complex Room 115**

# "The Birth and Growth of Particles in Air: Future Challenges and Why We Should Care"

Airborne particles are of great concern due to their deleterious effects on human health and visibility, and the complex role they play in climate change. While some particles are directly emitted into the atmosphere (e.g., soot particles from diesels), in many locations the majority are actually formed in air from products of the reactions of gas phase precursors. Further complicating a quantitative approach to predicting airborne particles is that the reactions that form the initial nuclei may be different than those that subsequently grow these to the ~ 100 nm size range where they are most effective in light scattering and in acting as seeds for cloud formation. Some of the research studies in our laboratory that are directed to understanding what processes form the initial nuclei as well as those that lead to growth will be described. The implications for the development of control strategies to address air quality and address climate change will be discussed.

**ALL WELCOME**