



## **Aerosols: from understanding their impacts on human health and climate to synthesising nanomaterials for gas sensing applications**

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Social Facilities Center, Building 3, Room 105, UCY New Campus

### **Abstract:**

Suspended particles in the atmospheric environment (i.e., atmospheric aerosols) can have adverse effects upon human health and climate. These environmental effects depend primarily on the size and composition of the particles, which can abruptly change depending on the vapor water content of the air and their hygroscopicity (i.e., their ability to take up water). Laboratory-generated aerosol nanoparticles of well-defined size and composition, on the other hand, find use in novel nanomaterials for a wide range of applications. In this presentation I will give a brief description of state-of-the-art instruments for measuring the hygroscopicity of airborne nanoparticles, and describe novel aerosol-based techniques for fabricating materials for gas sensors. Presenting recent results from observations in urban and remote environments using ground and airborne platforms, I will then show how combining the aerosol hygroscopicity with the gas concentration measurements can be used to indirectly approximate the chemical composition of airborne nanoparticles. I will summarize by addressing the current challenges in the field and discuss future directions.

### **Biography:**

George Biskos received his Ph.D. in 2004 from Cambridge University (UK), after which he spent three years as a Research Associate at Harvard University (USA). Currently he is a faculty member at the Cyprus Institute (Cyprus) and at Delft University of Technology (The Netherlands). His research interests span over the broader area of aerosol science and technology, ranging from the development of instrumentation for measuring airborne particles, to atmospheric aerosol chemistry and aerosol-based nanotechnology.

