

# Petros (Peter) Vasilakos

## Education:

- BS in Chemical Engineering, 2012, National Technical University of Athens, Greece
- MS in Chemical Engineering, 2015, Georgia Institute of Technology, Atlanta, Georgia, USA
- PhD candidate in Chemical Engineering, 2012 – present, Georgia Institute of Technology, Atlanta, Georgia, USA

**PhD Thesis Title:** Investigating the interactions between biogenic and anthropogenic emissions using Chemical Transport Models (CTMs)

**PhD Research Description:** My research focuses on improving the accuracy of Chemical Transport Models (CTMs), by enhancing the existing model physics and performing sensitivity studies, in order to gauge the impact of polluting sources on air quality. The first part of the research, which has already been completed, was aimed at:

- Developing a microphysics module that accounts for the charging of radioactive particles
- Integrating this module into the TOMAS modelling framework
- Using the module to assess the importance of charging effects on the atmospheric lifetime of aerosol released from radiological events

The second part of my research investigates the formation of Secondary Organic Aerosol (SOA) and involves, among others:

- The study of SOA formation from isoprene in the atmosphere of the Southeastern US
- The integration of many chemistry updates into the Community Multiscale Air Quality (CMAQ) model
- Extensive sensitivity analysis, in order to determine crucial model parameters for the formation of SOA, so as to improve the predictive ability of the model