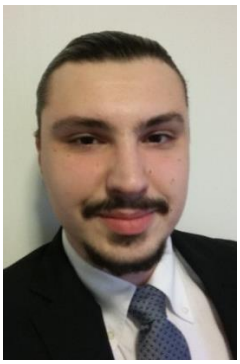

PETROS (PETER) VASILAKOS

C U R R I C U L U M V I T A E

Personal :

Date of Birth - September 15th, 1989
Place of Birth - Athens, Greece
Marital Status - Single

Address :

311, Ferst Drive NW
30322-0100
Atlanta, Georgia, USA
Tel. Nº :(+01) 404-385-4695 (office) & (+01) 678-702-2607 (mobile)
E-mail: peter.vasilakos@gatech.edu (office)
petvasilakos@gmail.com (personal)
Website: http://nenes.eas.gatech.edu/NenesGroup/NenesGroup.html

Education :

- BS in Chemical Engineering, 2012
  National Technical University,
  Athens, Greece
  Thesis title: Electrowetting of Micro Systems
  Summary: Theoretical research on the phenomenon of electrowetting, by developing and utilizing new computational methods and software. The thesis was part of a wider research project entitled "Roughness design towards reversible non-wetting / full-wetting surfaces: From Fakir Droplets to Liquid Films", which was funded by the European Research Council. More information about this research can be found at:
  http://www.chemeng.ntua.gr/people/pathan/project-1.php

- 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

Work experience:

August – October 2011

Process Simulation Department (3-month internship)
Hyperion Systems Engineering S.A., Athens, Greece.
Responsibilities: Developing a highly adaptive, dynamic simulation model of a coupled desulphurisation-hydrogenation unit and a reformer unit, using DynSim software. Both units were part of an integrated process-simulation package specifically developed by Hyperion Systems Engineering for its client SAUDI ARAMCO.

2012 - present

Graduate Research and Teaching Assistant
Department of Chemical & Biomolecular Engineering
Georgia Institute of Technology
Atlanta, Georgia, USA

Research Experience:

PhD Thesis Title: Investigating the interactions between biogenic and anthropogenic emissions using Chemical Transport Models (CTMs)
Thesis Advisers: Professors Athanasios Nenes & Armistead Russell
Brief Description: My PhD 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 my research, which has already been completed, was aimed at developing a microphysics module that accounts for the charging of radioactive particles and integrating it into the TOMAS modelling framework. This module was then used to assess the importance of such 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), with a focus on isoprene aerosol formation in the atmosphere of the Southeastern US. In particular, many chemistry updates have been integrated into the Community Multiscale Air Quality (CMAQ) model, coupled with a series of sensitivity studies, in order to determine crucial model parameters for the formation of SOA, so as to improve the predictive ability of the model.

Among the basic application fields of my research are:

- Radioactive particle behavior in the atmosphere
- Aerosol thermodynamics
- Production and life-cycle of Secondary Organic Aerosol (SOA)
- Aqueous isoprene SOA chemistry
- Climatological impact of SOA on the Southeast US
- Pollution source apportionment and sensitivity tools

More information about my research can be found at: http://nenes.eas.gatech.edu/NenesGroup/PetrosVasilakos.pdf

Teaching Assistant Experience:

1. Numerical methods in Chemical Engineering (sophomore-year course ChBE 2120 - Fall Semester 2013)
2. Chemical Engineering Thermodynamics-2 (junior-year course ChBE 3130 - Fall Semester 2014)
3. Unit Operations Laboratory (senior-year course ChBE 4200/4210 – Fall-Semester 2015)

Memberships: American Association for Aerosol Research (USA)

Languages:

1. English (excellent)
   - Certificate of Proficiency in English (C2), University of Cambridge (2005)
2. French (excellent)
   - Diplôme d'Etudes en Langue Française – Delf B1 (2010)
   - Certificat Pratique de Langue Française Paris-Sorbonne C1 (2012)
3. Greek (native language)

Computer skills and competences:

1. Cambridge International Diploma in IT Skills (2008), for Microsoft's:
   - Word 2002
   - Excel 2002
   - Internet Explorer 6
   - Outlook 2002
2. Fluid Dynamics: Comsol's Multiphysics (finite element analysis)
3. Process Simulation: DynSim & Aspen Hysys
4. Scientific calculations software: MathCAD & MatLab
5. Programming languages:
   - Fortran 77, 90, 95, 2008 (expert)
   - Java (novice)
   - C++ (novice)
   - C and bash shells (expert)
6. Air quality and meteorological modeling:
   - Community Multiscale Air Quality Model (CMAQ)
   - TwO-Moment Aerosol Sectional (TOMAS) microphysics
   - Sparse Matrix Operator Kernel Emission (SMOKE)
   - Weather and Research Forecasting Model (WRF)
   - Meteorology-chemistry interface processor (MCIP)
   - Direct Decoupled Method (DDM) sensitivity modeling

Papers at scientific conferences & workshops:

1. **"**Southern Oxidant and Aerosol Study (SOAS); A Modelling Perspective", Petros Vasilakos, Armistead Russell, Athanasios Nenes, et al., 33rd Annual Conference of the American Association for Aerosol Research, Rosen Shingle Creek Resort, Orlando, Florida, October 2014.

2. **"**The Impact of Radioactive Charging on the Microphysical Evolution and Transport of Radioactive Aerosols", Petros Vasilakos, Athanasios Nenes, et al., 33rd Annual Conference of the American Association for Aerosol Research, Rosen Shingle Creek Resort, Orlando, Florida, October 2014.

3. **"**Cloud Condensation Nuclei, Cloud Droplet Number, and the Radiative Balance over the Southeastern United States: Measurement and Modeling Results from the NOAA SENEX Campaign", Jack Lin, Petros Vasilakos, Athanasios Nenes, et al., 33rd Annual Conference of the American Association for Aerosol Research, Rosen Shingle Creek Resort, Orlando, Florida, October 2014.

   Abstracts of papers 1, 2 and 3 are available at:
   http://aaarabstracts.com/2014/AbstractBook.pdf

4. "The Impact of Radioactive Charging on the Microphysical Evolution and Transport of Radioactive Aerosols", Petros Vasilakos, Athanasios Nenes, et al., Meeting of the American Institute of Chemical Engineers, Atlanta, Georgia, November 2014.

   Abstract available at: http://www3.aiche.org/proceedings/Abstract.aspx?%20ConfID=Annual-%202014&GroupID=1891&SessionID=26925&PaperID=385838

5. **"**Using SOAS data to constrain isoprene SOA formation in CMAQ", Petros Vasilakos, Armistead Russel, Athanasios Nenes, et al. (Invited presentation), 2015 Southeast Workshop, Princeton, New Jersey, June 2015.

6. **"**Constraining IEPOX and IEPOX-derived SOA Formation in CMAQ with the use of SOAS Observations", Petros Vasilakos, Armistead Russell, Athanasios Nenes, et al., 34th Annual Conference of the American Association for Aerosol Research, Hyatt Regency, Minneapolis, Minnesota, October 2015.

   Abstract available at: http://aaarabstracts.com/2015/AbstractBook.pdf

7. "Modeling Biogenic Secondary Organic Aerosol (BSOA) with CMAQ: A Case Study of the SOAS Campaign", Petros Vasilakos, Momei Qin, Armistead Russell, Athanasios Nenes, et al., 35th Annual Conference of the American Association for Aerosol Research, Oregon Convention Center, Portland, Oregon, October 2016.

   Abstract available at: http://aaarabstracts.com/2016/AbstractBook.pdf

8. "The Role of Emissions Controls on Aerosol pH over a Decade (2001-2011) in the United States", Petros Vasilakos, Armistead Russell, Athanasios Nenes, 35th Annual Conference of the American Association for Aerosol Research, Oregon Convention Center, Portland, Oregon, October 2016.

   Abstract available at: http://aaarabstracts.com/2016/AbstractBook.pdf

9. "Constraining Biogenic Secondary Organic Aerosol (BSOA) production in CMAQ during the SOAS Campaign", Petros Vasilakos, Momei Qin, Armistead Russell, Athanasios Nenes, et al. 15th Annual CMAS Conference, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, October 2016.

   Abstract available at: https://www.cmascenter.org/conference/2016/agenda.cfm

Publications:

1. Pye, H. O. T., B. N. Murphy, P. Vasilakos, A. Nenes et al., **On the implications of aerosol liquid water and phase separation for organic aerosol mass**, Atm.Chem.Phys., in review (2016)

Honors and Awards:

1. Honorary Entrance Scholarship, Department of Chemical Engineering, National Technical University of Athens, Greece, 2007 (awarded each year only to the top 5% of students succeeding in the nation-wide University Entrance Examinations).

2. NSF symposium travel award for AAAR 2016