

Violeta Florentina Coarfa, Ph.D.

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EDUCATION:

2007 – 2008: Post-Doctoral Fellow in the Department of Chemistry/Earth and Atmospheric Sciences, University of Houston, TX

2001 – 2007: Doctor of Philosophy in the Department of Chemistry/Earth and Atmospheric Sciences, University of Houston, TX

1995 - 1999: Bachelor of Science in Chemistry with minor in Physics, University of Pitesti, Romania.

WORK/RESEARCH EXPERIENCE:

Employment History: 1

Dates: 01/20/2010 – Present

Employer: Houston Community College – Southwest Campus

Position: Chemistry Professor

Accomplishment:

2012 – “Certificate of Academic Excellence Based on Outstanding Student Evaluation” (HCCS)

Classes taught:

- Chem 1305/1105 (“Introduction to Chemistry” lecture and lab)
- Chem1311/1111 (“General Chemistry I” lecture and lab)
- Chem1412 (“General Chemistry II”)

Responsibilities:

- Preparation of course syllabi, and proper selection of instructional materials for both face-to-face and online courses.
- Planning and development of a variety of teaching methods and materials that assist students in meeting course objectives, and which are appropriate for students with different educational backgrounds and learning styles.
- Evaluation of students to measure their progress toward achievement of stated course objectives and inform them of their progress in the course in a timely manner.

Employment History: 2

Dates: 05/01/2007 - 07/31/2008

Employer: University of Houston, Department of Chemistry/Earth and Atmospheric Sciences

Position: Post-Doctoral Fellow

Responsibilities:

- Managed procurement, preparation of chemical reagents, and the installation of replacement parts for instrumentation.
- Coordinated the lab activities for measurement of atmospheric formaldehyde concentrations.
- Coordinated and effectively communicated with supply vendors and instrument manufacturers.

- Regularly managed the operations of measurement instrumentation and performed space utilization for technology.
- Recorded quantitative measurement data, prepared technical reports, summaries, and charts to evaluate results.

Employment History: 3

Dates: 09/01/2001 - 07/31/2008

Employer: University of Houston, Department of Chemistry/Earth and Atmospheric Sciences

Position: Research Assistant

Accomplishment: 2006 – “**Award for the Best Oral Presentation during the AMS 2006 Conference**”

Responsibilities:

- Study of the air toxics in the Houston-Galveston area, using several modeling tools, such as the Sparse Matrix Operator Kernel Emissions (SMOKE) system and the EPA's Community Multiscale Air Quality (CMAQ) system. The results from this study were used in a joint project with the Baylor College of Medicine, on the health effects of hazardous pollutants.
- Development of an optimized model for urban air toxics studies based on the CMAQ system structure; this new system helped perform simulations 8-9 times faster than the existing CMAQ model for toxic species.
- Refining the aromatic hydrocarbon representation in the SAPRC-99 chemical mechanism of the CMAQ system, explicitly accounting for important species such as benzene, toluene, and xylene isomers
- Evaluation of several emissions databases by performing sensitivity studies and by comparing the simulation results with observational data sets (aircraft data, supersite data and data from the Continuous Ambient Modeling Stations).
- Quantification of the impact of mobile sources on the toluene and benzene emissions and concentrations in the Houston-Galveston area.