

# CECILIA ARSENE

## Research Areas/Interest

### Environmental chemistry

- Chemistry of atmospheric aerosols
- Chemistry of volatile organic compounds in the atmosphere
- Kinetics, reactivity and reaction mechanisms for photochemical processes induced by radical and atomic species (OH, Cl, NO<sub>3</sub>, etc.) on organic compounds in air and water

### Chemistry of the atmosphere and human health

- Atmospheric pollutants and their possible effects on human health

### Instrumental analytical chemistry

- Application of chromatographic techniques in the analyses of specific analytes in natural matrices (air, water, soil, biological matrices) and of active principal ingredients in various drugs

Use of chromatographic techniques (GC-FID-MS, GC-FID-MS-TDS, GC-ECD, GC-MS, IC, HPLC, HPLC-DAD, HPLC-MS) in various applications.

Use of scanning mobility particle (SMPS CNC) and thermo-optical analyzers for discriminating between the organic carbon (OC) and elemental carbon (EC).

Use of environmental reaction chambers in the study of gaseous chemical pollutants under simulated atmosphere.

Use of automatic analyzers for SO<sub>2</sub>, CO, NO<sub>x</sub>, O<sub>3</sub>.

Multivariate statistical processing of the experimental data.

Implementation of accreditation and certification procedure on testing and calibration laboratories.



(b.1970)

**Professor, PhD, habil.**

**e-mail:**  
[carsene@uaic.ro](mailto:carsene@uaic.ro)

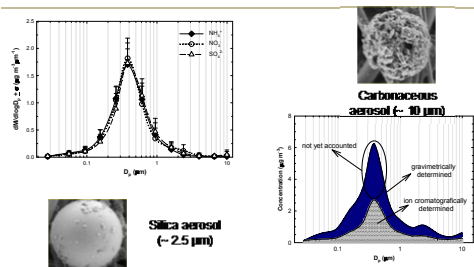
**Analytical chemistry**

**Atmospheric chemistry**

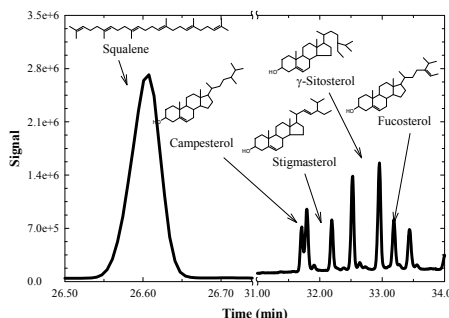
**Environmental analytical chemistry**

**PhD**

„Doktors der Naturwissenschaften” (Dr.Rer. Nat.), Bergische Universität Gelsenkirchen, Germany. Subject "Atmospheric Degradation Mechanisms of Organic Sulphur Compounds". Recognition by Certificate No. 2921/11.11.2002 with PhD in chemistry by the Romanian Minister of Education and Research



PN-II-ID-PCE-2011-3-0471, UEFISCDI - ROMANIA, Evaluation of Volatile Organics in the Lower/Upper Troposphere - their Impact on the Oxidizing, Noxious and Aerosol Influx Capacity in Romania, EVOLUTION-AIR, 05.10.2011 – 04.10.2016, Project director Dr. Cecilia ARSENE, Research subject Physico-chemical characterisation of submicron aerosols from urban atmosphere, PhD Student Alina Georgiana GALON (NEGRU), coordinator Cecilia ARSENE, PhD



Research subject Contributions to the development and applications of chromatographic techniques in the analysis of bioactive ingredients from plants, PhD Student Georgiana MARDARE (BALUDESCU), coordinator Cecilia ARSENE, PhD

## Publications (selection)

**Arsene, C.**, Chemical composition of aerosols, a fragile barrier between healing and wounding, keynote within the International Conference on Medical Physics, August 03-05, 2015, Birmingham, UK, in *Journal of Nuclear Medicine and Radiation Therapy*, 6:4, **2015**. Session chair; <http://medicalphysics.conferenceseries.com/speaker/2015/cecilia-arsene-university-of-iasi-romania>; <https://www.youtube.com/watch?v=Y9gonfic1yQ>

Sandu, I., Olariu, R.I., Sandu, I.G., Stirbu, C., Pascu, C., Vasilache, V., Vione, D., **Arsene, C.**, Investigation of the dynamics and kinetics involved in saline aerosol generation under air erosion of pure and contaminated halide salts, *Journal of Aerosol Sciences*, 81, 100-109, **2015**.

Olariu, R.I., Vione, D., Grinberg, N., **Arsene, C.**, Applications of liquid chromatographic techniques in the chemical characterization of atmospheric aerosols, *Journal of Liquid Chromatography and Related Technologies*, 38, 322-348, **2015**.

Braure, T., Riffault, V., Tomas, A., Olariu, R.I., **Arsene, C.**, Bedjanian, Y., Coddeville, P., Ozonolysis of a series of methylated alkenes. Reaction rate coefficients and gas-phase products, *International Journal of Chemical Kinetics*, 47, 596-605, **2015**.

Olariu, R.I., Vione, D., Grinberg, N., **Arsene, C.**, Sample preparation for trace analysis by chromatographic methods, *Journal of Liquid Chromatography & Related Technologies*, 33, 1174-1207, **2010**.