

ROMEO-IULIAN OLARIU

Research Areas/Interest

Environmental chemistry

- Kinetics, reactivity and reaction mechanisms for photochemical processes induced by radical and atomic species (OH, Cl, NO₃, etc.) on organic compounds in air and water

Chemistry of the atmosphere and human health

- Atmospheric pollutants and their possible effects

Instrumental analytical chemistry

- Application of instrumental (spectroscopic/spectrometric) techniques in the analyses of specific analytes in natural matrices (air, water, soil, biological matrices)

Use of various instrumental techniques (UV-vis, FT-IR, FTIR-RAMAN, GFAAS, ICP-MS, VCD-IR, SEM, GC, IC, HPLC) in various applications.

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

Use of automatic analyzers for SO₂, CO, NO_x, O₃.

Use of scanning mobility particle (SMPS CNC).

Multivariate statistical processing of the experimental data.

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



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Professor, PhD

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Analytical chemistry

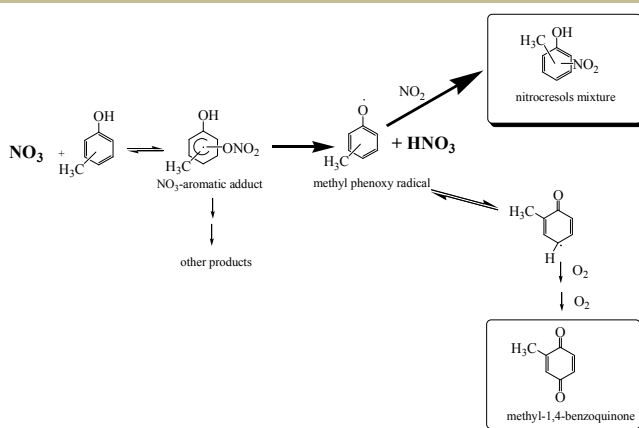
Atmospheric chemistry

PhD

„Doktors der Naturwissenschaften“ (Dr.Rer. Nat.),

Bergische Universität Gesamthochschule Wuppertal, Germany. Subject "Atmospheric Oxidation of Selected Aromatic Hydrocarbons". Recognition by Certificate No. 2922/11.11.2002 with PhD in chemistry by the Romanian Minister of Education and Research

Coordinator of CERNESIM Center



Publications (selection)

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 (9), 596-605, **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 (3), 322-348, **2015**.

Olariu, R.I., Barnes, I., Bejan, I., Arsene, C., Vione, D., Klotz, B., Becker, K.H., FTIR product study of the reactions of NO₃ radicals with ortho-, meta-, and para-cresol, *Environmental Science and Technology*, 47, 7729-7738, **2013**.

Arsene, C., Vione, D., Grinberg, N., **Olariu, R. I.**, GCxGC-MS hyphenated techniques for the analysis, of volatile organic compounds in air, *Journal of Liquid Chromatography & Related Technologies*, 34, 1077-1111, **2011**.

Bejan, I., Barnes, I., **Olariu, R.**, Zhou, S., Wiesen P., Benter, T., Investigations on the gas-phase photolysis and OH radical kinetics of methyl-2-nitrophenols, *Physical Chemistry Chemical Physics*, 9, 5686-5692, **2007**.

Harrison, M.A. J., Barra, S., Borghesi, D., Vione, D., Arsene, C., **Olariu, R. I.**, Nitrate phenols in the atmosphere. *Atmospheric Environment*, 39, 231-248, **2005**.

Olariu, R.I., Bejan, I., Barnes, I., Klotz, B., Becker, K.H., Wirtz, K., Rate Coefficient for the Gase-Phase Reaction of NO₃ Radicals with Selected Dihydroxybenzene. *International Journal of Chemical Kinetics*, 36, 577-583, **2004**.