DAVIDE VIONE

CURRICULUM VITAE

Present position (from 1 September 2018): Full Professor of Environmental Chemistry in the Department of Chemistry, University of Torino. Research interests: photochemistry of surface and atmospheric waters, application of advanced oxidation processes to water and wastewater treatment. As of October 2020 the Scopus database reported 255 entries under his name, with h-index = 46 and over 7900 citations (the corresponding figures on Google Scholar are 450/54/10100). He also authored two books, 16 book chapters and presented more than 150 congress communications. Teaching activity: Chemistry of Aquatic Systems, Environmental Chemistry, Laboratory of Analytical Chemistry, Chemical Risk Factors.

Previous activities

- October 2011 – August 2018: Associate Professor, Department of Chemistry, University of Torino.
- November 2002 – September 2011. University Lecturer in the Department of Analytical Chemistry, University of Torino.
- November 2001 – October 2002: Research scholarship given by the University of Torino on the issue: "Phototransformations of Organic Compounds Relevant to the Environment".
- November 1998 – October 2001. Ph. D. course in Chemistry in the Department of Analytical Chemistry, University of Torino. Ph. D. thesis: "Transformations of Aromatic Compounds in the Presence of Nitrate and Nitrite in Aqueous Systems", supervisor Prof. Ezio Pelizzetti.
- September – October 1998: Scholarship given by the Italian Interuniversity Consortium "Chemistry for the Environment" (INCA) for the writing of a research project entitled "Formation and Monitoring of Unknown and Toxic Compounds in Urban Air".
- M. Sc. Degree in Chemistry obtained on 7 July 1998 at the University of Torino. Mark: 110/110 with highest honours. Discussion of the thesis: "Transformations of Phenol Induced by the UV Photolysis of Nitrate and Nitrite in Aqueous Systems", supervisor Prof. Ezio Pelizzetti.

Awards/Acknowledgements

- Award Federchimica (= Italian Federation of Chemical Industries), 10th edition (1998), undergraduates.
- Prize "Optime" for the undergraduate curriculum (Industrial Union of Torino, 1999).
- University of Torino medal for the best M. Sc. Thesis in Chemistry, 1999.
- Award Federchimica, 12th edition (2000), M. Sc. Thesis section.
- Award for the best Ph. D. thesis in Environmental Chemistry (INCA consortium, 2002).
- Young Researcher Award 2003 (Analytical Chemistry Division – Italian Chemical Society).
- European Young Researcher of the Year Award 2003 (European Association of Chemistry and the Environment, ACE).
- Visiting Professor in the Laboratoire de Photochimie Moleculaire et Macromoleculaire, Université Blaise Pascal, Aubiere, France (February 2009, February 2011, February 2013, February 2015).
- Visiting Scientist, Swiss Federal Institute of Water Science and Technology (Eawag), Duebendorf, Swizerland, February 2017.
- Excellence in Review Awards 2017: *Environmental Science & Technology*, *Water Research*.
- From January 2017: Editorial advisory board member, *Environmental Science & Technology*.
- Listed among the *Top Italian Scientists*.

Research projects and other activities

Dr. Davide Vione has been a member of the international scientific committee of the Congress "Pesticides 2008" (Marseille, 22-25 October 2008)**.** He has taken part in the following research projects: PNRA - Antarctica Project (sector 9: Chemistry of the Polar Environments), CNR - Agenzia 2000, PRIN 2003 (project 2003035534_001), PRIN 2007 (2007L8Y4NB, Area 02, project n. 36), PRIN 20092C7KRC-ARCTICA, and the co-operation program between the University of Torino and the University of Calcutta (MIUR - India project).

He has been co-presenter of two financed regional projects (CIPE 2004, "Chemical and biological studies of atmospheric particulate matter as a risk factor for human health"; CIPE 2006, "Elaboration of a risk-assessment oriented monitoring system for the quality of drinking water").

He has been project coordinator within the Scientific and Technological Co-operation Agreement between Italy and Romania (EQUILIBRIAAS-PRO: "Environmental Quality Understanding Inferred by Laboratory Investigation of the Borne pollutants Released by Industrial and Agricultural Activities in a Small Part of Romania") and within the NATO "Science for Peace" program (Collaborative Linkage Grant no. 982287; "Pesticides and Nitrate Levels in Rainwater and Groundwater of Iasi – Romania"). He has coordinated two Lagrange research grants, "Unraveling the complex interaction between molecules and ecosystems in surface-water photochemistry" and "Assessment of pesticide persistence under sunlight", the project PHOTONIT ("Phototransformation and photonitration processes of aromatic compounds in surface waters: Environmental significance and impact on living organisms", PIIF-GA-2008-219350), within the FP7-PEOPLE Program (Marie Curie fellowship, beneficiary Dr. Pratap Reddy Maddigapu), as well as the CSP projects DOMNAMICS ("Impact of radiation on the dynamics of dissolved organic matter in aquatic ecosystems ") and ABATEPHARM ("Abatement of pharmaceuticals in hospital wastes").

International collaborations

- Dr. Gilles Mailhot, Dr. Marcello Brigante, Institut de Chimie de Clermont Ferrand, Université Blaise Pascal, Aubière, France.
- Dr. Donald Dabdub, Department of Aerospace and Mechanical Engineering, University of California, Irvine, CA, USA.
- Dr. Alexandre Albinet, INERIS, Verneuil-en-Halatte, France.
- Prof. Romeo-Iulian Olariu and Dr. Cecilia Arsene, Department of Inorganic and Analytical Chemistry, "Al. I. Cuza" University of Iasi, Romania.
- Dr. Birgit Koehler, Prof. Lars J. Tranvik, Department of Ecology and Genetics, Limnology, University of Uppsala, Sweden.
- Dr. Silvio Canonica, Swiss Federal Institute of Environmental Science and Technology (Eawag), Duebendorf, Swizerland.
- Dr. Miguel A. Vicente, Department of Inorganic Chemistry, University of Salamanca, Spain.
- Prof. Ruben Sommaruga, Institute of ecology, University of Innsbruck, Austria.
- Prof. Tamar Kohn, EPLF, Lausanne, Switzerland.
- Prof. Sasho Gligorovski, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, China.
- Dr. Radharani Das, Haldja Institute of Technology, Haldja, India.
- Prof. Biljana Abramovic, Department of Chemistry, University of Novi Sad, Serbia.
- Prof. Khan M. G. Mostofa, Institute of Geochemistry, Chinese Academy of Sciences, P. R. China.

SCIENTIFIC PAPERS (PEER-REVIEWED JOURNALS)

1) C. Minero, G. Mariella, V. Maurino, D. Vione, E. Pelizzetti. Photocatalytic Transformation of Organic Compounds in the Presence of Inorganic Ions. 2. Competitive Reactions of Phenol and Alcohols on a Titanium Dioxide-Fluoride System. *Langmuir* **2000**, *16*, 8694-8972.
2) D. Vione, V. Maurino, C. Minero, M. Vincenti, E. Pelizzetti. Formation of Nitrophenols upon UV Irradiation of Phenol and Nitrate in Aqueous Solutions and in TiO_2 Aqueous Suspensions. *Chemosphere* **2001**, *44*, 237-248.
3) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Phenol Photonitration upon UV Irradiation of Nitrite in Aqueous Solution I: Effects of Oxygen and 2-Propanol. *Chemosphere* **2001**, *45*, 893-902.
4) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Phenol Photonitration upon UV Irradiation of Nitrite in Aqueous Solution II: Effects of pH and TiO_2. *Chemosphere* **2001**, *45*, 903-910.
5) T. Picatonotto, D. Vione, M. E. Carlotti, M. Gallarate. Photocatalytic Activity of Inorganic Sunscreens. *J. Disp. Sci. Technol.* **2001**, *22*, 381-386.
6) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. New Processes in the Environmental Chemistry of Nitrite: Nitration of Phenol upon Nitrite Photoinduced Oxidation. *Environ. Sci. Technol.* **2002**, *36*, 669-676.
7) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Phenol Photonitration. *Ann. Chim. (Rome)* **2002**, *92*, 919-929.
8) T. Picatonotto, D. Vione, M. E. Carlotti. Effect of Some Additives used in the Cosmetic Field on the Photocatalytic Activity of Rutile. *J. Disp. Sci. Technol.* **2002**, *23*, 845-852.
9) V. Rossatto, T. Picatonotto, D. Vione, M. E. Carlotti. Behavior of Some Rheological Modifiers Used in Cosmetics Under Photocatalytic Conditions. *J. Disp. Sci. Technol.* **2003**, *24*, 259-271.
10) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. The Atmospheric Chemistry of Hydrogen Peroxide: a Review. *Ann. Chim. (Rome)* **2003**, *93*, 477-488.
11) D. Vione, V. Maurino, C. Minero, M. Vincenti, E. Pelizzetti. Aromatic Photonitration in Homogeneous and Heterogeneous Aqueous Systems. *Environ. Sci. Poll. Res.* **2003**, *10*, 321-324.
12) D. Vione, V. Maurino, C. Minero, D. Borghesi, M. Lucchiari, E. Pelizzetti. New Processes in the Environmental Chemistry of Nitrite 2. The Role of Hydrogen Peroxide. *Environ. Sci. Technol.* **2003**, *37*, 4635-4641.
13) D. Vione, T. Picatonotto, M. E. Carlotti. Photodegradation of Phenol and Salicylic Acid by Coated Rutile-Based Pigments: A New Approach for the Assessment of Sunscreen Treatment Efficiency. *J. Cosmet. Sci.* **2003**, *54*, 513-524.
14) B. Caccetta, G. Gallo, A. Regis, D. Vione, E. Roletto. Costruire i concetti di acido e di base. *CnS – La Chimica nella Scuola* **2003**, *Maggio-Giugno*, 81-91.
15) L. Pozzoli, S. Gilardoni, M. G. Perrone, G. De Gennaro, M. De Rienzo, D. Vione. Polycyclic Aromatic Hydrocarbons in the Atmosphere: Monitoring, Sources, Sinks and Fate. I: Monitoring and Sources. *Ann. Chim. (Rome)* **2004**, *94*, 17-32.
16) D. Vione, S. Barra, G. De Gennaro, M. De Rienzo, S. Gilardoni, M. G. Perrone, L. Pozzoli. Polycyclic Aromatic Hydrocarbons in the Atmosphere: Monitoring, Sources, Sinks and Fate. II: Sinks and Fate. *Ann. Chim. (Rome)* **2004**, *94*, 257-268.
17) D. Vione, V. Maurino, E. Pelizzetti, C. Minero. Phenol Photonitration and Photonitrosation upon Nitrite Photolysis in Basic Solution. *Intern. J. Environ. Anal. Chem.* **2004**, *84*, 493-504.
18) M. E. Carlotti, S. Sapino, D. Vione, E. Pelizzetti, M. Trotta. Photostability of Trolox in Water/Ethanol, Water, and Oramix CG 110 in the Absence and in the Presence of TiO_2. *J. Disp. Sci. Technol.* **2004**, *25*, 193-207.

19) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Phenol Nitration upon Oxidation of Nitrite by Mn(III,IV) (Hydr)oxides. *Chemosphere* **2004**, *55*, 941-949.
20) D. Vione, V. Maurino, C. Minero, M. Lucchiari, E. Pelizzetti. Nitration and Hydroxylation of Benzene in the Presence of Nitrite/Nitrous acid in Aqueous Solution. *Chemosphere* **2004**, *56*, 1049-1059.
21) D. Vione, F. Merlo, V. Maurino, C. Minero. Effect of Humic Acids on the Fenton Degradation of Phenol. *Environ. Chem. Lett.* **2004**, *2*, 129-133.
22) D. Vione, S. Belmondo, L. Carnino. A Kinetic Study of Phenol Nitration and Nitrosation with Nitrous Acid in the Dark. *Environ. Chem. Lett.* **2004**, *2*, 135-139.
23) M. A. J. Harrison, S. Barra, D. Borghesi, D. Vione, C. Arsene, R. I. Olariu. Nitrated Phenols in the Atmosphere: a Review. *Atmos. Environ.* **2005**, *39,* 231-248.
24) D. Vione, C. Minero, V. Maurino, M. E. Carlotti, T. Picatonotto, E. Pelizzetti. Degradation of Phenol and Benzoic Acid in the Presence of a TiO_2-Based Heterogeneous Photocatalyst. *Applied Catal. B: Environ.* **2005**, *58*, 79-88.
25) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Nitration and Photonitration of Naphthalene in Aqueous Systems. *Environ. Sci. Technol.* **2005**, *39*, 1101-1110.
26) M. E. Carlotti, S. Sapino, D. Vione, E. Pelizzetti, M. Trotta, L. Battaglia. Photostability and Stability over Time of Retinyl Palmitate in an O/W Emulsion and in SLN Introduced in the Emulsion. *J. Disp. Sci. Technol.* **2005**, *26*, 125-138.
27) D. Vione, M. E. Carlotti. Inhibition of the Photocatalytic Degradation of Benzoic and Salicylic Acid by Non-Toxic Aromatic Compounds. *J. Disp. Sci. Technol.* **2005**, *26*, 163-168.
28) M. E. Carlotti, S. Sapino, D. Vione, E. Pelizzetti, E. Ugazio, S. Morel. Study on the photostability of octyl-p-methoxy cinnamate in SLN. *J. Disp. Sci. Technol.* **2005**, *26*, 809-816.
29) S. Sapino, M. E. Carlotti, E. Pelizzetti, D. Vione, M. Trotta, L. Battaglia. Protective Effect of SLNs Encapsulation on the Photodegradation and Thermal Degradation of Retinyl Palmitate Introduced in Hydroxyethylcellulose Gel. *J. Drug Del. Sci. Technol.* **2005**, *15*, 159-165.
30) D. Vione, V. Maurino, C. Minero, P. Calza, E. Pelizzetti. Phenol Chlorination and Photochlorination in the Presence of Chloride Ions in Homogeneous Aqueous Solution. *Environ. Sci. Technol.* **2005**, *39,* 5066-5075.
31) D. Vione, V. Maurino, C. Minero, E. Pelizzetti. Aqueous Atmospheric Chemistry: Formation of 2,4-Dinitrophenol upon Nitration of 2-Nitrophenol and 4-Nitrophenol in Solution. *Environ. Sci. Technol.* **2005**, *39*, 7921-7931.
32) C. Minero, M. Lucchiari, D. Vione, V. Maurino. Fe(III)-Enhanced Sonochemical Degradation of Methylene Blue in Aqueous Solution. *Environ. Sci. Technol.* **2005**, *39*, 8936-8942.
33) D. Borghesi, D. Vione, V. Maurino, C. Minero. Transformations of Benzene Photoinduced by Nitrate Salts and Iron Oxide. *J. Atmos. Chem.* **2005**, *52*, 259-281.
34) D. Vione, V. Maurino, C. Minero, E. Pelizzetti, M. A. J. Harrison, R. I. Olariu, C. Arsene. Photochemical Reactions in the Tropospheric Aqueous Phase and on Particulate Matter. *Chem. Soc. Rev.* **2006**, *35*, 441-453.
35) D. Vione, G. Falletti, V. Maurino, C. Minero, E. Pelizzetti, M. Malandrino, R. Ajassa, R.I. Olariu, C. Arsene. Sources and Sinks of Hydroxyl Radicals upon Irradiation of Natural Water Samples. *Environ. Sci. Technol.* **2006**, *40*, 3775-3781.
36) C. Minero, V. Maurino, E. Pelizzetti, D. Vione. An Empirical, Quantitative Approach to Predict the Reactivity of Some Substituted Aromatic Compounds towards Reactive Radical Species ($Cl_2^{-\bullet}$, $Br_2^{-\bullet}$, $^{\bullet}NO_2$, $SO_3^{-\bullet}$, $SO_4^{-\bullet}$) in Aqueous Solution. *Environ. Sci. Pollut. Res.* **2006**, *13*, 212-214.
37) C. Minero, D. Vione. A Quantitative Evaluation of the Photocatalytic Performance of TiO_2 Slurries. *Applied Catal. B: Environ.* **2006,** *67*, 257-269.

38) B. L. Iurascu, I. Simiceaunu, D. Vione. Preparation and characterization of a new photocatalyst from synthetic Laponite clays. *Bul. Instit. Polit. Iasi* **2006**, *51*, 1-10.
39) S. Chiron, C. Minero, D. Vione. Photodegradation Processes of the Antiepileptic Drug Carbamazepine, Relevant to Estuarine Waters. *Environ. Sci. Technol.* **2006**, *40*, 5977-5983.
40) C. Minero, F. Bono, F. Rubertelli, D. Pavino, V. Maurino, E. Pelizzetti, D. Vione. On the Effect of pH in Aromatic Photonitration upon Nitrate Photolysis. *Chemosphere* **2007**, *66*, 650-656.
41) S. Chiron, C. Minero, D. Vione. Photodegradation of Xenobiotic Compounds Relevant to Estuarine Waters. *Ann. Chim. (Rome)* **2007**, *97*, 135-139.
42) C. Minero, S. Chiron, G. Falletti, V. Maurino, E. Pelizzetti, R. Ajassa, M. E. Carlotti, D. Vione. Photochemical Processes Involving Nitrite in Surface Water Samples. *Aquat. Sci.* **2007**, *69*, 71-85.
43) S.Sapino, M. E. Carlotti, R.Cavalli, M.Trotta, F.Trotta, D.Vione. Effect of Alkyl-γ-Cyclodextrins on the Stability of Retinol. *J. Incl. Phenom. Macrocycl. Chem.* **2007**, *57*, 451-455.
44) S. Chiron, C. Minero, D. Vione. Occurrence of 2,4-Dichlorophenol and of 2,4-Dichloro-6-nitrophenol in the Rhône River Delta (Southern France). *Environ. Sci. Technol.* **2007**, *41*, 3127-3133.
45) C. Minero, V, Maurino, E. Pelizzetti, D. Vione. Assessing the Steady-State [$^{\bullet}NO_2$] in Environmental Samples. Implications for Aromatic Photonitration Processes Induced by Nitrate and Nitrite. *Environ. Sci. Pollut. Res.* **2007**, *14*, 241-243.
46) D. Vione, C. Minero, A. Hamraoui, M. Privat. Modelling Photochemical Reactions in Atmospheric Water Droplets: An Assessment of the Importance of Surface Processes. *Atmos. Environ.* **2007**, *41*, 3303-3314.
47) C. Minero, V. Maurino, F. Bono, E. Pelizzetti, A. Marinoni, G. Mailhot, M. E. Carlotti, D. Vione. Effect of Selected Organic and Inorganic Snow and Cloud Components on the Photochemical Generation of Nitrate by Nitrite Irradiation. *Chemosphere* **2007**, *68*, 2111-2117.
48) C. Minero, V. Lauri, V. Maurino, E. Pelizzetti, D. Vione. A Model to Predict the Steady-State Concentration of Hydroxyl Radicals in the Surface Layer of Natural Waters. *Ann. Chim. (Rome)* **2007**, *97*, 685-698.
49) M. E. Carlotti, S. Sapino, D. Vione, C. Minero, E. Peira, M. Trotta. Study on the Photodegradation of Salicylic Acid in Different Vehicles in the Absence and in the Presence of TiO_2. *J. Disp. Sci. Technol.* **2007**, *28*, 805-818.
50) D. Vione, C. Minero, V. Maurino, E. Pelizzetti. Seasonal and Water Column Trends of the Relative Role of Nitrate and Nitrite as $^{\bullet}OH$ Sources in Surface Waters. *Ann. Chim. (Rome)* **2007**, *97*, 699-711.
51) C. Minero, V. Lauri, G. Falletti, V. Maurino, E. Pelizzetti, D. Vione. Spectrophotometric Characterisation of Surface Lakewater Samples: Implications for the Quantification of Nitrate and the Properties of Dissolved Organic Matter. *Ann. Chim. (Rome)* **2007**, *97*, 1107-1116.
52) D. Vione, C. Minero, F. Housari, S. Chiron. Photoinduced Transformation Processes of 2,4-Dichlorophenol and 2,6-Dichlorophenol on Nitrate Irradiation. *Chemosphere* **2007**, *69*, 1548-1554.
53) M. E. Carlotti, S. Sapino, D. Vione, C. Minero, M. Trotta, M. Gallarate. Photostability of Octyl-P-Methoxy Cinnamate on O/W Emulsions and in SLNs Vehicled in the Emulsions. *J. Disp. Sci. Technol.* **2007**, *28*, 1034-1043.
54) C. Minero, P. Pellizzari, V. Maurino, E. Pelizzetti, D. Vione. Enhancement of Dye Sonochemical Degradation by Some Inorganic Anions Present in Natural Waters. *Appl. Catal. B: Environ.* **2008**, *77*, 308-316.
55) S. Khanra, C. Minero, V. Maurino, E. Pelizzetti, B. K. Dutta, D. Vione. Phenol Transformation Induced by UVA Photolysis of the Complex $FeCl^{2+}$. *Environ. Chem. Lett.* **2008**, *6*, 29-34.
56) V. Maurino, D. Borghesi, D. Vione, C. Minero. Transformation of Phenolic Compounds upon UVA Irradiation of Anthraquinone-2-sulphonate. *Photochem. Photobiol. Sci.* **2008**, *7*, 321-327.

57) D. Vione, V. Maurino, S. Cucu Man, S. Khanra, C. Arsene, R. I. Olariu, C. Minero. Formation of Organobrominated Compounds in the Presence of Bromide under Simulated Atmospheric Aerosol Conditions. *ChemSusChem* **2008**, *1*, 197-204.
58) M. E. Carlotti, S. Sapino, E. Ugazio, E. Peira, D. Vione, C. Minero. Photostability of Ferulic Acid and its Antioxidant Activity against Linoleic Acid Peroxidation. *J. Disp. Sci. Technol.* **2008**, *29*, 629-640.
59) E. Ugazio, M. E. Carlotti, S. Sapino, M. Trotta, D. Vione, C. Minero. Photodegradation of Cinnamic Acid in Different Media. *J. Disp. Sci. Technol.* **2008**, *29*, 641-652.
60) M. E. Carlotti, S. Sapino, S. Marino, E. Ugazio, F. Trotta, D. Vione, D. Chirio, R. Cavalli. Influence of Hydroxypropyl-β-cyclodextrin on the Photostability and Antiradical Activity of Trolox. *J. Incl. Phenom. Macrocycl. Chem.* **2008**, *61*, 279-287.
61) S. Chiron, S. Barbati, S. Khanra, B. K. Dutta, M. Minella, C. Minero, V. Maurino, E. Pelizzetti, D. Vione. Bicarbonate-Enhanced Transformation of Phenol upon Irradiation of Hematite, Nitrate, and Nitrite. *Photochem. Photobiol. Sci.* **2009**, *8*, 91-100.
62) S. Chiron, L. Comoretto, E. Rinaldi, V. Maurino, C. Minero, D. Vione. Pesticide By-Products in the Rhône Delta (Southern France). The Case of 4-Chloro-2-methylphenol and of its Nitroderivative. *Chemosphere* **2009**, *74*, 599-604.
63) B. Iurascu, I. Siminiceanu, D. Vione, M. A. Vicente, A. Gil. Phenol Degradation in Water through a Heterogeneous Photo-Fenton Process Catalyzed by Fe-treated Laponite. *Wat. Res.* **2009**, *43*, 1313-1322.
64) D. Vione, J. Feitosa-Felizzola, C. Minero, S. Chiron. Phototransformation of Selected Human-used Macrolides in Surface Water: Kinetics, Model Predictions and Degradation Pathways. *Wat. Res.* **2009**, *43*, 1959-1967.
65) D. Vione, V. Maurino, C. Minero, M. Duncianu, R. I. Olariu, C. Arsene, M. Sarakha, G. Mailhot. Assessing the Transformation Kinetics of 2- and 4-Nitrophenol in the Atmospheric Aqueous Phase. Implications for the Distribution of both Nitroisomers in the Atmosphere. *Atmos. Environ.* **2009**, *43*, 2321-2327.
66) D. Vione, V. Lauri, C. Minero, V. Maurino, M. Malandrino, M. E. Carlotti, R. I. Olariu, C. Arsene. Photostability and Photolability of Dissolved Organic Matter upon Irradiation of Natural Water Samples under Simulated Sunlight. *Aquat. Sci.* **2009**, *71*, 34-45.
67) D. Vione, V. Maurino, C. Minero, M. E. Carlotti, S. Chiron, S. Barbati. Modelling the Occurrence and Reactivity of the Carbonate Radical in Surface Freshwater. *C. R. Chimie* **2009**, *12*, 865-871.
68) D. Vione, I. Casanova, C. Minero, M. Duncianu, R. I. Olariu, C. Arsene. Assessing the Potentiality of Surface Waters to Produce $^{\bullet}OH$ and $^{\bullet}NO_2$ Radicals. *Rev. Chim.* **2009**, *60*, 123-126.
69) D. Vione, B. Ravizzoli, E. Rinaldi, F. Pettinato, R. I. Olariu, C. Arsene. Studies Regarding Groundwater Quality at Rural Sites. 1. Estimation of the Anthropic Factor Impact by Complementary Chemical Analyses. *Rev. Chim.* **2009**, *60*, 237-240.
70) D. Vione, E. Rinaldi, C. Minero, V. Maurino, R. I. Olariu, C. Arsene. Studies Regarding Groundwater Quality at Rural Sites. 2. Photochemical Generation of $^{\bullet}OH$ and $^{\bullet}NO_2$ Radicals upon UVA Irradiation of Nitrate-Rich Groundwater. *Rev. Chim.* **2009**, *60*, 551-554.
71) M. E. Carlotti, E. Ugazio, L. Gastaldi, S. Sapino, D. Vione, I. Fenoglio, B. Fubini. Specific Effects of Single Antioxidants in the Lipid Peroxidation caused by Nano-titania used in Sunscreen Lotions. *J. Photochem. Photobiol. B: Biol.* **2009**, *96*, 130-135.
72) D. Vione, S. Khanra, S. Cucu Man, P. R. Maddigapu, R. Das, C. Arsene. R. I. Olariu, V. Maurino, C. Minero. Inhibition vs. Enhancement of the Nitrate-induced Phototransformation of Organic Substrates by the $^{\bullet}OH$ Scavengers Bicarbonate and Carbonate. *Wat. Res.* **2009**, 43, 4718-4728.
73) D. Vione, M. Minella, C. Minero, V. Maurino, P. Picco, A. Marchetto, G. Tartari. Photodegradation of Nitrite in Lake Waters: Role of Dissolved Organic Matter. *Environ. Chem.* **2009**, *6*, 407-415.

74) R. Das, B. K. Dutta, V. Maurino, D. Vione, C. Minero. Suppression of Inhibition of substrate Photodegradation by Scavengers of Hydroxyl Radicals: The Solvent-Cage Effect of Bromide on Nitrate Photolysis. *Environ. Chem. Lett.* **2009**, *7*, 337-342.

75) D. Vione, M. Ponzo, D. Bagnus, V. Maurino, C. Minero, M. E. Carlotti. Comparison of Different Probe Molecules for the Quantification of Hydroxyl Radicals in Aqueous Solution. *Environ. Chem. Lett.* **2010**, *8*, 95-100.

76) D. Vione, R. Das, F. Rubertelli, V. Maurino, C. Minero, S. Barbati, S. Chiron. Modelling the Occurrence and Reactivity of Hydroxyl Radicals in Surface Waters: Implications for the Fate of Selected Pesticides. *Intern. J. Environ. Anal. Chem.* **2010**, *90*, 258-273.

77) F. al Housari, D. Vione, S. Chiron, S. Barbati. Reactive Photoinduced Species in Estuarine Waters. Characterization of Hydroxyl Radical, Singlet Oxygen and Dissolved Organic Matter Triplet State in Natural Oxidation Process. *Photochem. Photobiol. Sci.* **2010**, *9*, 78-86.

78) P. R. Maddigapu, A. Bedini, C. Minero, V. Maurino, D. Vione, M. Brigante, G. Mailhot, M. Sarakha. The pH-Dependent Photochemistry of Anthraquinone-2-sulphonate. *Photochem. Photobiol. Sci.* **2010**, *9*, 323-330.

79) M. Brigante, T. Charbouillot, D. Vione, G. Mailhot. Photochemistry of 1-Nitronaphthalene: A Potential Source of Singlet Oxygen and Radical Species in Atmospheric Waters. *J. Phys. Chem. A* **2010**, *114*, 2830-2836.

80) D. Vione, D. Bagnus, V. Maurino, C. Minero. Quantification of Singlet Oxygen and Hydroxyl Radicals upon UV Irradiation of Surface Water. *Environ. Chem. Lett.* **2010**, *8*, 193-198.

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SOFTWARE

M. Bodrato, D. Vione. APEX (Aqueous Photochemistry of Environmentally-occurring Xenobiotics). It predicts half-life times and phototransformation kinetics of pollutants as a function of water chemistry and depth, including the photochemical formation of intermediates. APEX is available for free download at http://chimica.campusnet.unito.it/do/didattica.pl/Quest?corso=7a3d. It is based on the free software Octave; versions of Octave for Windows can be freely downloaded at http://sourceforge.net/projects/octave/files/Octave%20Windows%20binaries/.

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