

SCIENTIFIC AND PROFESSIONAL CURRICULUM

LAURA MARIA TERESA CAPELLI

PERSONAL INFORMATION

Place and date of birth: Milano, September 22nd 1979

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EDUCATION

Education

- May 2008: PhD in Industrial Chemistry and Chemical Engineering (XX Cycle) at Politecnico di Milano. Title of the Doctoral Thesis: "Study and development of a system for the continuous monitoring of environmental odours", coordinator: prof. Renato Rota, tutor: prof. Renato Del Rosso, supervisor: prof. Paolo Céntola.
- April 2004: Master's Degree in Chemical Engineering at Politecnico di Milano, with a mark of 99/100. Title of the Master's Thesis: "Electronic nose: Study of applicability to environmental monitoring".
- May 1998: High School Degree (German Abitur), with a mark of 58/60, at the DSM - Deutsche Schule Mailand, Milano.

Prizes and scholarships

- January 2005: scholarship for PhD in Industrial Chemistry and Chemical Engineering at Politecnico di Milano (XX Cycle).

Professional experience at Politecnico di Milano

- Since 1st September 2018: Associate Professor at the Politecnico di Milano; Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”, SSD ING-IND/23.
- Since 2013: Confirmation as Assistant Professor at the Politecnico di Milano; Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”, SSD ING-IND/27.
- Since 1st June 2010: Assistant Professor at the Politecnico di Milano; Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”, SSD ING-IND/27.
- April 2009 –May 2010: collaboration contract for research activity at the Department of Chemistry, Materials and Chemical Engineering “Giulio Natta” for collaboration to the research program “Implementation of an innovative system for the continuous monitoring of environmental odours” SSD ING-IND/27.
- May 2008 – April 2009: collaboration contract for research activity at the Department of Chemistry, Materials and Chemical Engineering “Giulio Natta” for collaboration to the research program “Development of electronic noses for environmental applications: study of sensor sensitivity towards humidity and odour concentration” SSD ING-IND/27.
- 2005-2008: PhD in Industrial Chemistry and Chemical Engineering (XX Cycle)
- July 2004 – February 2005: collaboration contract at the Olfactometric Laboratory.

TEACHING ACTIVITY

Teaching activity at Politecnico di Milano

Appointed teacher of PROCESSES OF FOOD INDUSTRY: 5 CFU, Cod. 054915, Scuola Ing Ind - Inf, Academic year: from 2019/2020

Appointed teacher of SPECIAL CHEMICAL TECHNOLOGIES: RENEWABLE RAW MATERIALS: 5 CFU, Cod. 096214, Scuola Ing Ind - Inf, Academic year: from 2019/2020

Appointed teacher of TECHNOLOGIES FOR SAFETY AND ENVIRONMENT IN THE OIL&GAS AND ENERGY INDUSTRY: 5 CFU, Cod. 052527, Scuola Ing Ind - Inf, Academic year: from 2018/2019

Appointed teacher of TECNOLOGIA DEL PETROLIO E BIOCOMBUSTIBILI ("Petroleum and biofuels technologies"): 8 CFU, Cod. 091043, Scuola Ing Ind - Inf, Academic year 2013/2014 and 2014/2015

Appointed teacher of PROCESSI E IMPIANTI DELL'INDUSTRIA ALIMENTARE ("Processes of food industry"): 5 CFU, Cod. 089615, Scuola Ing Ind – Inf, Academic year 2017/2018

Teaching activity (lessons and exercises) in the courses:

- TECNOLOGIE E PROCESSI DELL'INDUSTRIA PETROLIFERA ("Petroleum technologies and refining processes"): Cod. 089626, Prof. Davide Moscatelli, Scuola Ing Ind - Inf, Academic year 2016/2017 to now.
- ODOUR SCIENCE AND ENGINEERING: Cod. 096159, Prof.ssa Selena Sironi, Scuola Ing Ind - Inf, Academic year 2014/2015 to now.
- TECNOLOGIE E PROCESSI DELL'INDUSTRIA PETROLIFERA ("Petroleum technologies and refining processes"): Cod. 089626, Prof. Renato Del Rosso, Scuola Ing Ind - Inf, Academic year 2010/2011 to 2015/2016.
- TECNOLOGIA DEL PETROLIO E BIOCOMBUSTIBILI ("Petroleum and biofuels technologies"): Cod. 091043, Prof. Paolo Gronchi, Scuola Scuola Ing Ind - Inf, Academic year 2015/2016.
- TECNOLOGIA DEL PETROLIO E BIOCOMBUSTIBILI ("Petroleum and biofuels technologies"): Cod. 091043, Prof. Renato Del Rosso, Scuola Scuola Ing Ind - Inf, Academic year 2011/2012 and 2012/2013.

Teaching activity at other Universities

Teaching activity at the University Carlo Cattaneo of Castellanza (LIUC) in the course of TECNOLOGIE E IMPIANTI INDUSTRIALI CHIMICI ("Chemical technologies and industrial plants"), Prof. Paolo Gronchi, from 2006/2007 to 2010/2011.

Other teaching activities

Teaching activities in professional formation courses on Odour Pollution organized yearly by FAST (Federazione delle Associazioni Scientifiche e Tecniche), from 2014 to now (last course “Odours: New BAT conclusions, impact evaluation and technical solution” held on 27-28 March 2019).

Supervisor of Ph.D. and Master Thesis

Supervisor of Ph.D. Thesis in Industrial Chemistry and Chemical Engineering (XXXIII Cycle). Title: “New strategies for early prostate cancer detection: urine odour analysis combined with chemical characterization of urine headspaces”, Student: Carmen Bax.

Supervisor of Ph.D. Thesis in Industrial Chemistry and Chemical Engineering (XXX Cycle). Title: “Odour Emissions From Non-Active Area Sources”, Student: Federico Lucernoni.

Supervisor of several Master Thesis in Chemical Engineering, Safety Engineering and Energy Engineering, mainly in the field of:

- development of electronic noses for the monitoring of environmental odour emissions,
- study of transport and volatilization phenomena in order to characterize odour and odorants emissions from area sources,
- development of electronic nose applications for medical diagnostics.

SCIENTIFIC ACTIVITY

Scientific interests and research activities

Laura Capelli carries out her scientific research at Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”. At the Olfactometric Laboratory her activity focuses on different aspects of chemical engineering, specializing in odour measurement and control issues, whereby her main research topics are connected to the aspects of odour emission characterization, monitoring, and dispersion modelling.

Her research activity started focusing especially on the study and the development of innovative instrumental systems (“electronic noses”) for the continuous monitoring of environmental odours (which was the topic of her Ph.D. thesis). More recently, the activity connected to the development of electronic noses was extended to the field of product analysis and medical diagnostics (early detection of cancer diseases). This research activity involves the understanding of the chemical and physical interactions between the odour molecules and the electronic nose sensors and the maximization of such interaction and discrimination capability through the optimization of the sample preparation and analysis procedures, and the mathematical data processing.

Her other main scientific interest concerns the characterization and the modelling of emissions from complex odour sources. This research activity is based on the study of the transport phenomena associated with the volatilization of odorous substances from sources, such as passive area sources (liquid and solid) and landfills, for which diffusive mechanisms and convection are the driving force for atmospheric emissions. This involves on one hand the design of specific sampling systems for the different source types, and the study of their fluid-dynamic performance. On the other hand, also the suitable models to relate sampled data to real conditions and thus implement them as source terms for atmospheric dispersion modelling need to be studied and developed.

Finally, odour dispersion modelling is another of her principal areas of study. Besides aforementioned source term characterization, this activity involves the re-modulation of the dispersion equations to the specific characteristics of odour emissions, which are connected to human perception. Moreover, the aspects of model validation through direct odour emission monitoring techniques in the field, such as electronic noses, field inspections and other combined approaches are being studied.

The research activity led to the publication of more than 140 papers in journals, books and conferences (ca. 75 ISI/Scopus indexed publications; Scopus H-Index = 17). She is scientific coordinator and organizer of the NOSE international conference series on environmental odour monitoring and control, and member of the scientific committee of other relevant conferences in this field (e.g., MKO, IWA).

Responsibility of research contracts for third parties at Politecnico di Milano

Scientific responsibility of several scientific research contracts commissioned by qualified institution (private or public), for amounts between 65 and 135 k€:

- Scientific responsibility of the research commissioned by Humanitas Research Hospital in the fields of feasibility investigation for the realization of an electronic nose for early prostate cancer detection (December 2015 to now)
- Scientific responsibility of the research commissioned by SACMI Imola S.C. for the design and development of electronic noses for environmental odour monitoring applications (2014 to now)
- Scientific responsibility of the research commissioned by ECONORD S.p.A. for the assessment of the odour impact and the optimization of the methods for odour emission estimation from landfills (2015 to now)
- Scientific responsibility of the research commissioned by WHIRLPOOL Europe S.r.l. "Odor removal and Air filtration + Purification (2012-2013)
- Scientific responsibility of the research commissioned by CPL Concordia in the field of the evaluation of olfactory properties of gas odorants (2011-2012).

FULL LIST OF PUBLICATIONS

147. Cipriano D., Capelli L., 2019. Evolution of Electronic Noses from Research Objects to Engineered Environmental Odour Monitoring Systems: A Review of Standardization Approaches. *Biosensors* 9, 75. doi:10.3390/bios9020075
146. Invernizzi M., Bellini A., Miola R., Capelli L., Busini V., Sironi S., 2019. Assessment of the chemical-physical variables affecting the evaporation of organic compounds from aqueous solutions in a sampling wind tunnel. *Chemosphere* 220, 353-361.
145. Vitali S., Bax C., Sironi S., Capelli L., 2018. Investigation of electronic nose sensor drift correction methods and their application to environmental samples. *Chemical Engineering Transactions* 68, 289-294. doi:10.3303/CET1868049
144. Li Voti M., Bax C., Marzocchi M., Sironi S., Capelli L., 2018. Testing procedure for performance evaluation of electronic noses for environmental odour monitoring. *Chemical Engineering Transactions* 68, 277-282. doi:10.3303/CET1868047
143. Sozzi R., Bolignano A., Sironi S., Capelli L., 2018. Reflections on odour concentration fluctuations and nuisance. *Chemical Engineering Transactions* 68, 199-204. doi:10.3303/CET1868034
142. Capelli L., Grande M., Intini G., Sironi S., 2018. Comparison of field inspections and dispersion modelling as a tool to estimate odour emission rates from landfill surfaces. *Chemical Engineering Transactions* 68, 187-192. doi:10.3303/CET1868032
141. Invernizzi M., Ilare J., Capelli L., Sironi S., 2018. Proposal of a method for evaluating odour emissions from refinery storage tanks. *Chemical Engineering Transactions* 68, 49-54. doi:10.3303/CET1868009

140. Arias R., Capelli L., Díaz C., 2018. A new methodology based on citizen science to improve environmental odour management. *Chemical Engineering Transactions* 68, 7-12. doi:10.3303/CET1868002
139. Capelli L., Sironi S., 2018. Combination of field inspection and dispersion modelling to estimate odour emissions from an Italian landfill. *Atmospheric Environment* 191, 273-290.
138. Bax C., Taverna G., Eusebio L., Sironi S., Grizzi F., Guazzoni G., Capelli L., 2018. Innovative diagnostic methods for early prostate cancer detection through urine analysis: A review. *Cancers* 10(4), 123. doi:10.3390/cancers10040123
137. Lucernoni F., Capelli L., Busini V., Del Rosso R., Prata Jr. A.A., Stuetz R.M., Sironi S., 2018. Investigation of mass transfer phenomena affecting emission rate of gaseous compounds from porous solids. *Process Safety and Environmental Protection* 116, 516-526.
136. Prata Jr. A.A., Lucernoni F., Santos J.M., Capelli L., Sironi S., Le-Minh N., Stuetz R.M., 2018. Mass transfer inside a flux hood for the sampling of gaseous emissions from liquid surfaces – Experimental assessment and emission rate rescaling. *Atmospheric Environment* 179, 227-238.
135. Lucernoni F., Rizzotto M., Capelli L., Busini V., Del Rosso R., Sironi S., 2017. Sampling method for the determination of methane emissions from landfill surfaces. *Waste Management and Research* 35(10), 1034-1044.
134. Romeo A., Capelli L., Sironi S., Nano G., Rota R., Busini V., 2017. Dust emission and dispersion from mineral storage piles. *Environmental Science and Pollution Research*, 24(28), 22663-22672.
133. Eusebio L., Capelli L., Sironi S., 2017. H₂S Loss through Nalophan™ Bags: Contributions of Adsorption and Diffusion. *The Scientific World Journal* 2017, 1-15.
132. Romain A.C., Capelli L., Guillot J.M., 2017. Instrumental odour monitoring: Actions for a new European Standard, pp. 74-77. In: 2017 ISOCS/IEEE International Symposium on Olfaction and Electronic Nose (ISOEN 2017) Proceedings. IEEE Service Center, Piscataway, NJ, USA. ISBN: 978-1-5090-2391-2.
131. Capelli L., Sironi S., 2017. Monitoring Odour Emissions from an oil & gas plant: electronic nose performance testing in the field, pp. 56-58. In: 2017 ISOCS/IEEE International Symposium on Olfaction and Electronic Nose (ISOEN 2017) Proceedings. IEEE Service Center, Piscataway, NJ, USA. ISBN: 978-1-5090-2391-2.
130. Lucernoni F., Capelli L., Sironi S., 2017. Comparison of different approaches for the estimation of odour emissions from landfill surfaces. *Waste Management* 63, 345-353.
129. Eusebio L., Derudi M., Capelli L., Nano G., Sironi S., 2017. Assessment of the indoor odour impact in a naturally ventilated room. *Sensors* 17 (4), 778.
128. Lucernoni F., Capelli L., Busini V., Sironi S., 2017. A model to relate wind tunnel measurements to open field odorant emissions from liquid area sources. *Atmospheric Environment* 157, 10-17.
127. Invernizzi M., Capelli L., Sironi S., 2017. Proposal of Odor Nuisance Index as Urban Planning Tool. *Chemical Senses* 42, 105-110.
126. Capelli L., Taverna G., Bellini A., Eusebio L., Buffi N., Lazzeri M., Guazzoni G., Bozzini G., Seveso M., Mandressi A., Tidu L., Grizzi F., Sardella P., Latorre G., Hurle R., Lughezzani G., Casale P.,

- Meregali S., Sironi S., 2016. Application and Uses of Electronic Noses for Clinical Diagnosis on Urine Samples: A Review. *Sensors* 16, 1708.
125. Eusebio L., Davoli E., Capelli L., Del Rosso R., Sironi S., 2016. Temperature Effect on H₂S Diffusion through Nalophan™. *Chemical Engineering Transactions* 54, 313-318.
 124. Invernizzi M., Capelli L., Sironi S., 2016. Quantification of Odour Annoyance-Nuisance. *Chemical Engineering Transactions* 54, 205-210.
 123. Lucernoni F., Capelli L., Sironi S., 2016. Odour Sampling on Passive Area Sources: Principles and Methods. *Chemical Engineering Transactions* 54, 55-60.
 122. Eusebio L., Capelli L., Sironi S., 2016. Electronic Nose Testing procedure for the Definition of Minimum Performance Requirements for Environmental Odor Monitoring. *Sensors* 16, 1548.
 121. Lucernoni F., Tapparo F., Capelli L., Sironi S., 2016. Evaluation of an Odour Emission Factor (OEF) to estimate odour emissions from landfill surfaces. *Atmospheric Environment* 144, 87-99.
 120. Lucernoni F., Rizzotto M., Tapparo F., Capelli L., Sironi S., Busini V., 2016. Use of CFD for static sampling hood design: An example for methane flux assessment on landfill surfaces. *Chemosphere* 163, 259-269.
 119. Nozza E., Capelli L., Eusebio L., Derudi M., Nano G., Del Rosso R., Sironi S., 2016. The role of bioethanol flueless fireplaces on indoor air quality: Focus on odour emissions. *Building and Environment* 98, 98-106.
 118. Lucernoni F., Capelli L., Busini V., Del Rosso R., Stuetz R., Sironi S., 2015. Gaseous emissions from porous media. *Proceedings of the 6th IWA Conference on Odours & Atmospheric Emissions*, 16-18 November 2015, Paris, France.
 117. Romeo A., Capelli L., Nano G., Rota R., Busini V., 2015. Dust emission and dispersion from mineral storage piles. *Proceedings of the 6th IWA Conference on Odours & Atmospheric Emissions*, 16-18 November 2015, Paris, France.
 116. Lucernoni F., Tapparo F., Capelli L., Busini V., Del Rosso R., Sironi S., 2015. Evaluation of landfill gas surface emissions. *Proceedings of the 6th IWA Conference on Odours & Atmospheric Emissions*, 16-18 November 2015, Paris, France.
 115. Capelli L., Lucernoni F., Sironi S., 2015. Odour impact assessment by dispersion modelling: a comparison of different approaches for the estimation of odour emissions from landfill surfaces. *Proceedings of Sardinia Symposium 2015*, Santa Margherita di Pula (ITA), 5-9 October 2015.
 114. Eusebio L., Sironi S., Capelli L., 2015. Electronic Nose for continuous emission monitoring and odour concentration measurement: case study at a waste water treatment plant, pp. 190-191. In: *Proceedings of ISOEN 2015, 16th International Symposium on Olfaction and Electronic Nose*, 28 June-1 July 2105, Dijon, France.
 113. Capelli L., Eusebio L., Sironi S., 2015. Environmental odour monitoring by means of electronic noses: definition of instrumental minimum performance requirements, pp. 273-274. In: *Proceedings of ISOEN 2015, 16th International Symposium on Olfaction and Electronic Nose*, 28 June-1 July 2105, Dijon, France.

112. Sironi S., Eusebio L., Capelli L., Boiardi E., Del Rosso R., 2014. Ammonia Diffusion through Nalophan Double Bags: Effect of Concentration Gradient Reduction. *The Scientific World Journal* 2014, 1-8.
111. Capelli L., Sironi S., Del Rosso R., 2014. Electronic Noses for Environmental Monitoring Applications. *Sensors* 14, 19979-20007.
110. Capelli L., Sironi S., Del Rosso R., 2014. Odour Emission Factors: Fundamental Tools for Air Quality Management. *Chemical Engineering Transactions* 40, 193-198.
109. Capelli L., Sironi S., Del Rosso R., Magnano E., 2014. Evaluation of Landfill Surface Emissions. *Chemical Engineering Transactions* 40, 187-192.
108. Sironi S., Eusebio L., Capelli L., Boiardi E., Del Rosso R., 2014. Odour Sample Diffusion Through Double Nalophan™ Bags. *Chemical Engineering Transactions* 40, 169-174.
107. Eusebio L., Sironi S., Capelli L., Il Grande M., Della Torre M., 2014. Continuous Evaluation of Odour Concentration at a Plant Emission by Electronic Nose. *Chemical Engineering Transactions* 40, 133-138.
106. Sironi S., Eusebio L., Capelli L., Remondini M., Del Rosso R., 2014. Use of an Electronic Nose for Indoor Air Quality Monitoring. *Chemical Engineering Transactions* 40, 73-78.
105. Sironi S., Eusebio L., Capelli L., Boiardi E., Del Rosso R., Guillot J.-M., 2014. Ammonia Diffusion Phenomena through Nalophan™ Bags Used for Olfactometric Analyses. *Journal of Environmental Protection* 5, 949-961.
104. Sironi S., Capelli L., Del Rosso R., 2014. Odor Emissions, pp. 1-23. In: Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering. J. Reedijk (Ed.), Elsevier, Waltham, MA.
103. Capelli L., Sironi S., Del Rosso R., 2014. Evaluation of olfactory properties of gas odorants. *Chemical Engineering Transactions* 36, 301-306.
102. Sironi S., Eusebio L., Dentoni L., Capelli L., Del Rosso R., 2014. Ammonia diffusion through Nalophan™ bags. *Water Science and Technology* 69 (3), 486-494.
101. Capelli L., Dentoni L., Sironi S., Del Rosso R., 2014. The need for electronic noses for environmental odour exposure assessment. *Water Science and Technology* 69 (1), 135-141.
100. Eusebio L., Dentoni L., Capelli L., Sironi S., Rossi A.N., Bonati S., 2013. Odour impact assessment in the field: the plume method. *Environmental Engineering and Management Journal* 12, S11, Supplement, 193-196.
99. Dentoni L., Eusebio L., Capelli L., Sironi S., 2013. Electronic nose for the continuous measurement of odour concentration at emissions: instrument development, training and application. *Environmental Engineering and Management Journal* 12, S11, Supplement, 189-192.
98. Sironi S., Capelli L., Dentoni L., Rossi A., Austeri C., Boraga I., 2013. Odour impact assessment in the industrial area of Narni. *Environmental Engineering and Management Journal* 12, S11, Supplement, 185-188.
97. Dentoni L., Capelli L., Sironi S., Guillot J.-M., Rossi A.N., 2013. Comparison of different approaches for odour impact assessment: dispersion modelling (CALPUFF) vs field inspection (CEN/TC 264). *Water Science and Technology* 68 (8), 1731-1738.

96. Capelli L., Sironi S., Del Rosso R., Guillot J.-M., 2013. Measuring odours in the environment vs. dispersion modelling: A review. *Atmospheric Environment* 79, 731-743.
95. Sironi S., Capelli L., Dentoni L., Del Rosso R., 2013. Methodology for assessing the performance of urine absorbing aids in controlling malodour release. *International Journal of Cosmetic Science* 35 (4), 321-328.
94. Sironi S., Capelli L., Dentoni L., Del Rosso R., 2013. Odour Regulation and Policies, pp. 175-186. In: *Odour Impact Assessment Handbook*. V. Belgiorno, V. Naddeo, T. Zarra (Eds.), Wiley, Chichester, UK (ISBN: 978-1-119-96928-0).
93. Capelli L., Sironi S., Del Rosso R., 2013. Odor Sampling: Techniques and Strategies for the Estimation of Odor Emission Rates from Different Source Types. *Sensors* 13, 938-955.
92. Sironi S., Capelli L., Dentoni L., Eusebio L., 2012. Confronto tra i diversi approcci per la valutazione di impatto odorigeno: modelli di dispersione (CALPUFF) vs field inspection (CEN / TC 264), pp. 1330-1335. In: *Le vie dello sviluppo attraverso la Green Economy. La Ricerca, gli Strumenti, la Gestione Industriale*. L. Morselli (Ed.), Maggioli Editore, Rimini, Italy. Atti dei seminari di Ecomondo 2012, 7-10 novembre 2012, Rimini, Italy (978-88-387-7708-X).
91. Capelli L., Sironi S., Dentoni L., Eusebio L., Del Rosso R., 2012. Il naso elettronico per la valutazione di impatto olfattivo, pp. 1286-1290. In: *Le vie dello sviluppo attraverso la Green Economy. La Ricerca, gli Strumenti, la Gestione Industriale*. L. Morselli (Ed.), Maggioli Editore, Rimini, Italy. Atti dei seminari di Ecomondo 2012, 7-10 novembre 2012, Rimini, Italy (978-88-387-7708-X).
90. Dentoni L., Capelli L., Sironi S., Del Rosso R., Zanetti S., Della Torre M., 2012. Development of an Electronic Nose for Environmental Odour Monitoring. *Sensors* 12, 14363-14381.
89. Sironi S., Capelli L., Dentoni L., Del Rosso R., 2012. Evaluation of odour release from urine absorbing aids. *Chemical Engineering Transactions* 30, 337-342.
88. Dentoni L., Bascelli M., Capelli L., Sironi S., Del Rosso R., Buccolini M., 2012. Design of a specific apparatus to evaluate odour reduction efficiency of a nebulizing system applied on odorous liquid surfaces. *Chemical Engineering Transactions* 30, 289-294.
87. Dentoni L., Capelli L., Sironi S., Remondini M., Della Torre M., Riccò I., Demattè F., Zanetti S., Il Grande M., 2012. Electronic noses for the qualitative and quantitative determination of environmental odours. *Chemical Engineering Transactions* 30, 211-216.
86. Busini V., Capelli L., Sironi S., Nano G., Rossi A.N., Bonati S., 2012. Comparison of CALPUFF and AERMOD models for odour dispersion simulation. *Chemical Engineering Transactions* 30, 205-210.
85. Capelli L., Dentoni L., Sironi S., Guillot J.M., 2012. Experimental approach for the validation of odour dispersion modelling. *Chemical Engineering Transactions* 30, 151-156.
84. Capelli L., Sironi S., Barczak R., Il Grande M., Del Rosso R., 2012. Validation of a method for odor sampling on solid area sources. *Water Science and Technology* 66 (8), 1607-1613.
83. Capelli L., Sironi S., Del Rosso R., Bianchi G., Davoli E., 2012. Olfactory and toxic impact of industrial odour emissions. *Water Science and Technology* 66 (7), 1399-1406.

82. Capelli L., Sironi S., Del Rosso R., Bianchi G., Davoli E., 2012. Evaluating the dispersion of toxic odour emissions from complex sources. *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering* 47 (8), 1113-1122.
81. Sironi S., Capelli L., Del Rosso R., 2011. Campionamento e stima di flussi di odore da impianti industriali, pp.1386-1391. In: *Industrial Ecology. I principi, le applicazioni a supporto della Green Economy*. L. Morselli (Ed.), Maggioli Editore, Rimini, Italy. Atti dei seminari di Ecomondo 2011, 9-12 novembre 2011, Rimini, Italy (ISBN 978-88-387-6986-9).
80. Dentoni L., Capelli L., Sironi S., Del Rosso R., Centola P., Della Torre M., Demattè F., 2011. Development of an Electronic Nose for environmental monitoring: Detection of specific environmentally important gases at their odor detection threshold concentration, pp. 207-208. In: *AIP Conference Proceedings*, Vol. 1362, Gouma P. (Ed.), Olfaction and electronic nose: Proceedings of the 14th International Symposium on Olfaction and Electronic Nose, 2-5 May 2011, New York USA (ISBN: 978-0-7354-0920-0).
79. Capelli L., Sironi S., 2011. Discussione dei limiti di accettabilità di impatto olfattivo in immissione basata su casi reali, pp. 1347-1352. In: *Industrial Ecology. I principi, le applicazioni a supporto della Green Economy*. L. Morselli (Ed.), Maggioli Editore, Rimini, Italy. Atti dei seminari di Ecomondo 2011, 9-12 novembre 2011, Rimini, Italy (ISBN 978-88-387-6986-9).
78. Cusano G., Esposito R., Sironi S., Capelli L., Rossi A.N., Il Grande M., 2011. Le linee guida della Regione Lombardia per la caratterizzazione delle emissioni odorigene, pp. 1337-1340. In: *Industrial Ecology. I principi, le applicazioni a supporto della Green Economy*. L. Morselli (Ed.), Maggioli Editore, Rimini, Italy. Atti dei seminari di Ecomondo 2011, 9-12 novembre 2011, Rimini, Italy (ISBN 978-88-387-6986-9).
77. Capelli L., Sironi S., Davoli E., 2011. Valutazione di impatto olfattivo e tossicologico delle emissioni di odore: il caso di Terni, pp. 287-293. In: *Atti del 28° Congresso Nazionale AIDII*, 22-24 giugno 2011, Ravenna, Italy. M.C. Aprea, R. Demi, S. Luzzi, A. Peretti, G. Sciarra (Eds.), Tipografia PI-ME Editrice, Pavia (ISBN 978-88-86293-17-4).
76. Capelli L., Sironi S., Davoli E., 2011. Risultati della valutazione di tossicità delle emissioni odorigene nella Conca Ternana, pp. 102-116. In: *Atti della giornata di studio "Impatto odorigeno: lo stato dell'arte in Italia. Aspetti tecnici e nuovi sviluppi normativi": Rapporti G.S.I.S.R. N. 253 – 05/11*. 05 maggio 2011, Milano, Italy.
75. Sironi S., Capelli L., 2011. Studio previsionale di impatto olfattivo mediante simulazione della dispersione atmosferica: caso di studio con riferimento alla Linea Guida di Regione Lombardia, pp. 42-50. In: *Atti della giornata di studio "Impatto odorigeno: lo stato dell'arte in Italia. Aspetti tecnici e nuovi sviluppi normativi": Rapporti G.S.I.S.R. N. 253 – 05/11*. 05 maggio 2011, Milano, Italy.
74. Capelli L., Sironi S., Del Rosso R., Centola P., Rossi A., Austeri C., 2011. Odour impact assessment in urban areas: case study of the city of Terni. *Procedia Environmental Sciences* 4, 151-157.
73. Capelli L., Sironi S., Del Rosso R., Centola P., Rossi A., Austeri C., 2011. Olfactometric approach for the evaluation of citizens' exposure to industrial emissions in the city of Terni, Italy. *Science of the Total Environment* 409 (3), 595-603.

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