

Curriculum del Prof. Enzo Montoneri

DATI BIOGRAFICI

nato il 7/8/43
cittadinanza italiana

TITOLI

- Laurea in Chimica Pura presso l'Università di Catania nel 1968 con voti 106/110 e abilitazione alla professione nello stesso anno.
- Laurea in Farmacia presso l'Università di Milano nel 1981 con voti 100/110 e abilitazione alla professione nello stesso anno.
- Ricercatore presso il Politecnico di Milano nel 1983
- Professore Ordinario di Chimica Industriale nel 1990 presso l'Università di Torino
- Membro del Comitato Tecnico Ordinatore della Nuova Facoltà di Scienze di Verona (1991-94).

CARRIERA

Ricercatore presso la DuPont de Nemours in USA (1969-71), borsista universitario (1971-72), ricercatore della Snia Viscosa (1973-77) e della DeNora (1977-82), ricercatore universitario (1983-90), professore ordinario dal 1990 all'Università di Torino.

ATTIVITA' DIDATTICA E SCIENTIFICA

Insegnamenti Tenuti per Affidamento o Supplenza.

- Chimica Organica Industriale dal 1990 fino alla riforma 3 + 2 nel corso di laurea di Chimica Industriale dell'Università di Torino
- Petrolchimica e Carbochimica 3 cfu dalla riforma 3 + 2 fino al 2006 nel corso di laurea triennale in Chimica Industriale dell'Università di Torino
- Chimica Organica Industriale e laboratorio 4 cfu dalla riforma 3 + 2 fino al 2006 nel corso di laurea triennale in Chimica Industriale dell'Università di Torino
- Chimica Industriale Organica 7 cfu dal 2006 fino ad oggi
- Chimica Fine e delle Risorse Rinnovabili 4 cfu dalla riforma 3 + 2 fino ad oggi nel corso di laurea magistrale in Chimica Industriale dell'Università di Torino
- Chimica delle Fermentazioni e Microbiologia Industriale 3 cfu nel corso di laurea magistrale in Chimica Industriale dell'Università di Torino dal 2005 fino ad oggi
- Sicurezza e Qualità nell'Industria Chimica 2 cfu nel corso di laurea magistrale in Chimica Industriale dell'Università di Torino dal 2000 fino ad oggi
- Impianti Biochimici nel Corso di Laurea Triennale in Biotecnologie Agro-Industriali dell'Università di Verona (2003 e 2004).
- Chimica I 2 cfu nel Corso di Laurea Triennale in Comunicazione Scientifica dell'Università di Torino (2004-2007)
- Chimica II 2 cfu nel Corso di Laurea Triennale in Comunicazione Scientifica dell'Università di Torino (2004-2007)
- Chimica e Biotecnologia delle Fermentazioni 5 cfu nel corso di laurea triennale in Biotecnologie dell'Università di Torino (2007-08)
- Chimica delle Fermentazioni e Microbiologia Industriale 2 cfu nel corso di laurea magistrale in Biotecnologie dell'Università di Torino (2007-08)

Contenuti dell'Attività Didattica.

Risorse a fini energetici e chimici industriali: carbone, petrolio, metano e risorse rinnovabili. Analisi della struttura e delle proprietà delle risorse. Processi ed impianti chimici e biochimici industriali. Aspetti termodinamici e cinetici dei processi chimici e biochimici industriali. Principali prodotti chimici e biochimici industriali.

Contenuti dell'Attività Scientifica.

L'attività di ricerca copre la sintesi di nuovi intermedi chimici, lo sviluppo di nuovi processi chimici per la sintesi di intermedi, lo studio dei relativi meccanismi di reazione, la sintesi di polimeri organici ed organo-inorganici per celle elettrochimiche, per celle a combustibile e per applicazioni nell'elettronica ed opto-elettronica, la caratterizzazione degli stessi, anche in relazione al loro funzionamento in condizioni di utilizzo, i processi di compostaggio e la caratterizzazione dei loro prodotti, lo studio di polimeri naturali, la valorizzazione di biomasse residuali come fonti di energia e ausiliari chimici a scopi industriali. L'attività è documentata da 177 pubblicazioni, comunicazioni a congresso e brevetti.

Publicazioni

1. Biomass wastes as renewable source of energy and chemicals for the industry with friendly environmental impact. E. Montoneri^{1*}, P. Savarino¹, S. Bottigliengo¹, V. Boffa¹, A. Bianco Prevot², D. Fabbri² and E. Pramauro² *Fresenius Environmental Bulletin*, in the press
2. Biosurfactants from urban wastes. Product technological performance as a function of source material and process. V. Boffa, P. Savarino, E. Montoneri, S. Bottigliengo, G. Musso, D.G.Perrone, A. Bianco Prevot, 2nd Euchems Chemistry Congress, September 16-20, 2008, Torino, Italy
3. Biosurfactants From Urban Green Wastes. E. Montoneri, V. Boffa, P. Savarino, D. Perrone, G. Musso, R. Mendichi, M. R. Chierotti, R. Gobetto, *Environ. Sci. Technol.* submitted for publication August 10, 2008
4. Sensitizing Effect of Compost Derived Humic Acid-Like on The Photochemical Degradation of Aromatic Sulphonates. Bianco Prevot Alessandra, Boffa Vittorio, Fabbri Debora, Montoneri Enzo, Pramauro Edmondo, 2nd Euchems Chemistry Congress, September 16-20, 2008, Torino, Italy
5. Valorisation of Biomass Wastes as Sources of Environmentally Friendly Chemical Products. V. Boffa, E. Montoneri, P. Savarino. XVII Congresso Nazionale di Chimica Industriale, 30 Giugno - 3 Luglio 2008, Genova, Italy, Atti del Congresso ACQ-C05
6. Urban refuses as low entropy renewable source of products for the chemical industry. V. Boffa, E. Montoneri, G. Musso, D.G. Perrone, P. Savarino. XVII Congresso Nazionale di Chimica Industriale, 30 Giugno - 3 Luglio 2008, Genova, Italy, Atti del Congresso EGC-P04
7. New Biosurfactants Isolated from Biomass Wastes with Friendly Environmental Impact for the Chemical Industry. E. Montoneri, V. Boffa and P. Savarino. Cesio 2008, 7Th World Surfactant Congress, 22-26 June 2008, Palais de Congres, Paris, France
8. Urban wastes as sources of valuable chemicals for sustainable development: surfactants, dispersing polymers and polyelectrolytes of biological origin. V. Boffa, E. Montoneri, R. Mendichi, M.R. Chierotti, R. Gobetto, C. Medana and E. Prenesti⁴. *International Journal of Sustainable Development and Planning* 2008, in the press.
9. Humic acid-like matter isolated from green urban wastes. Part II: performance in chemical and environmental technologies. Enzo Montoneri, Piero Savarino, Stefano Bottigliengo, Giorgia Musso, Vittorio Boffa, Alessandra Bianco Prevot, Debora Fabbri and Edmondo Pramauro, *Bioresources* 2008, 3(1), 217-233.
10. Use of biosurfactants from urban wastes compost in textile dyeing and soil remediation. E. Montoneri, V. Boffa, P. Savarino, F. Tambone, F. Adani, L. Micheletti, C. Gianotti, R. Chiono. *Waste Management* 2009, 29, 383–389, DOI information: 10.1016/j.wasman.2008.01.011, available on line <http://dx.doi.org/10.1016/j.wasman.2008.01.011>
11. Humic acid-like matter isolated from green urban wastes. Part I: structure and surfactant properties. Enzo Montoneri, Vittorio Boffa, PierLuigi Quagliotto, Raniero Mendichi, Michele R. Chierotti, Roberto Gobetto and Claudio Medana, *Bioresources* 2008 3(1), 123-141.
12. Integrated processes for treating biomass wastes. developing biorefinery concepts. E. Montoneri, P. Savarino, S. Bottigliengo, M. Biasizzo, P.L. Quagliotto, G. Viscardi, V. Boffa, A. Bianco Prevot, D. Fabbri and E. Pramauro. 11th International Waste Management and Landfill Symposium, 1-5 October 2007, S. Margherita di Pula (CA), Sardinia, Italy. Abstract Volume, p.467, Sardinia 2007 proceedings and CD containing full papers available from Eurowaste Srl, Padova, Italy, eurowaste@tin.it

13. Upgrading Biomass Wastes in Chemical Technology. Humic Acid-like Matter Isolated from Compost as Chemical Auxiliary for Textile Dyeing. Piero Savarino, Enzo Montoneri, Miriam Biasizzo, Pierluigi Quagliotto, Guido Viscardi and Vittorio Boffa. *Journal of Chemical Technology & Biotechnology*, 2007, 82, 939–948.
14. Proton conductivity of poly(dialkyl)phosphazenes-phosphoric acid composites at low humidity. Giovanni Dotelli, Maria C. Gallazzi, Matteo Bagatti, Enzo Montoneri and Vittorio Boffa, *Solid State Ionics*, 2007, 178, 1442-1450
15. Biomassa come Risorsa Rinnovabile di Prodotti ed Ausiliari Chimici Industriali, Enzo Montoneri e Vittorio Boffa, *La Chimica e l'Industria*, 2007, July/august, p. 126-132
16. Biomass Wastes as Renewable Source of Energy and Chemicals for the Industry with Friendly Environmental Impact. E. Montoneri, P. Savarino, S. Bottigliengo, P.L. Quagliotto, G. Viscardi, V. Boffa, A. Bianco Prevot, D. Fabbri and E. Pramauro. *Proceedings of the First Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2007)*, P260, Skiathos, June 24-28, 2007.
17. Biomass Wastes as Renewable Source of Energy and Chemicals for the Industry with Friendly Environmental Impact. E. Montoneri, P. Savarino, S. Bottigliengo, P.L. Quagliotto, G. Viscardi, V. Boffa, A. Bianco Prevot, D. Fabbri and E. Pramauro. *Proceedings of the Conference Italic 4 Science & Technology of Biomass: Advances and Challenges*, May 8-10, 2007, Villa Mondragone, Monte Porzio Catone (Rome, Italy), p.137-140.
18. β Cyclodextrin-Disperse/Reactive Dye Complex: Synthesis and Application on Dyeing Processing. Parlati S., Barolo C., Buscaino R., Bottigliengo S., Montoneri E., Chierotti M.R., Arrais A., Medana C. and Savarino P. *Atti del Congresso Nazionale di Chimica e Tecnologia delle Ciclostestrine*, Asti 6-8 maggio 2007, pag.48.
19. 4-Sulphophenylphosphonic acid: a Novel Precursor to Fabricate Polyfunctional Acid Materials Enzo Montoneri, Guido Viscardi, Stefano Bottigliengo, Roberto Gobetto, Michele R. Chierotti, Roberto Buscaino, and Pierluigi Quagliotto. *Chem. Mater.*, **2007**, 19(10), 2671-2678.
20. Proton Conducting Organo-Inorganic Polymers and Materials. Enzo Montoneri and Vittorio Boffa., in *Ionic Polymers*. Roger De Jaeger and Mario Gleria ,eds. Nova Science Publishers, Inc. **2007**, Chapter 16, 767-786
21. Modification of soil humic matter after 4 years of compost application. Fabrizio Adani, Pierluigi Genevini, Giuliana Ricca, Fulvia Tambone, Enzo Montoneri. *Waste Management*, **2007**, 27, 319-324.
22. Unraveling the Complex Hydrogen Bonding of a Dual-Functionality Proton Conductor using Ultra-fast Magic Angle Spinning NMR. Jason W. Traer, Enzo Montoneri, Ago Samoson, Jaan Past, Tiit Tuherm, Gillian R. Goward. *Chem. Mater.*, **2006**, 18 (20), 4747 -4754.
23. Compost effect on soil humic acid: a NMR study. Adani, F.; Genevini, P.L.; Tambone, F.; Montoneri, E. *Chemosphere* **2006**, 65, 1414–1418.
24. Chemicals from Wastes: Compost-Derived Humic Acid–Like Matter as Surfactant. P. Quagliotto, Enzo Montoneri, F. Tambone, F. Adani, R. Gobetto, and G. Viscardi, *Environ. Sci. Technol.* **2006**, 40,1686-1692.
25. Effects of additives on the dyeing of polyamide fibers. Part II: methyl- β -cyclodextrin. P. Savarino, R. Buscaino, P. Piccinini, C. Barolo, E. Montoneri. *Dyes and Pigments*, **2006**, 69, 7-12.
26. Proton conductivity of poly(dipropyl)phosphazene-sulfonated poly[(hydroxy)propyl, phenyl]ether- H_3PO_4 composite in dry environment. G. Dotelli, M. C. Gallazzi, G. Perfetti, E. Montoneri. *Solid State Ionics*, **2005**, 176/37, 2819-2827. Reference: SOSI10068. DOI information: 10.1016/j.ssi.2005.09.008
27. Compost come risorsa rinnovabile di prodotti chimici: proprietà tensioattive ed applicazioni di acidi umici isolati da prodotti di compostaggio. Enzo Montoneri, Pier Luigi Quagliotto, Piero Savarino, G. Viscardi, Roberto Gobetto, Fabrizio Adani, Fulvia Tambone. *9th International Trade Fair on Material & Energy Recovery and Sustainable Development*. Rimini, October

- 26-29, 2005. I quaderni di Ecomondo. Tecnologie innovative per l'industrializzazione del sistema ambiente. Rifiuti, Compost, Combustibili solidi di recupero. Atti dei seminari p. 27-35.
28. Proton conductivity of poly(dipropyl)phosphazene composites in dry environment. G. Dotelli, M. C. Gallazzi, G. Perfetti, E. Montoneri. International Conference on "New Proton Conducting Membranes and Electrodes for PEM FCs". Assisi (I), October 23-26, 2005. Abstract P9
 29. Structure and surfactant properties of humic acid-like matter isolated from urban refuse-agricultural wastes compost. P. Quagliotto, G. Viscardi, E. Montoneri, R. Gobetto, F. Adani, F. Tambone. XVI Congresso Nazionale di Chimica Industriale, Verbania Pallanza, 14-17 Giugno 2005. Atti del Convegno p. 178-179.
 30. Urban refuse-agricultural wastes composts as renewable source of ionic polymers to recycle for technological applications. P. Quagliotto, G. Viscardi, E. Montoneri, R. Gobetto, F. Adani, F. Tambone. Convegno Nazionale Società Italiana della Scienza del Suolo, Bari (I), June 21-24, 2005, Volume dei riassunti, p. 31, edited by N. Senesi and T. Miano
 31. Compost humic acid-like matter as surfactant. P. Quagliotto, G. Viscardi, E. Montoneri, R. Gobetto, F. Adani, F. Tambone. European Geosciences Union General Assembly, Vienna, Austria, April 24-29, 2005. Geophysical Research Abstracts, Vol. 7, 10555, 2005. SRef-ID: 1607-7962/gra/EGU05-A-10555 © European Geosciences Union 2005. Abstract available at http://www.copernicus.org/EGU/ga/egu05/general_information.htm (meeting programme; energy, resources and the environment)
 32. An IR study to investigate the structural relationship of lignin-like matter and lignosulphonates obtained from animal-vegetable wastes". E. Montoneri. Waste Management, **2005**, 25 (2), 161-169. DOI information: 10.1016/j.wasman.2004.07.005; Special Issue - VARIEREI 2003 - Edited by M. Pelino
 33. "Ionic precursors containing C, N, P and S for materials research". E. Montoneri and P. J. Squattrito, Recent Res. Devel. Solid State Ionics, **2004**, 2, 393-429.
 34. "P-C Bonded Polyphosphazenes". M. C. Gallazzi and E. Montoneri, in *Phosphazenes: A Worldwide Insight*, Eds. Mario Gleria and Roger De Jaeger, NOVA Science Publishers Inc. 400 Oser Avenue, Suite 1600 Hauppauge, NY 11788, USA, **2004**, Chapter 6, 121-141.
 35. "Polyalkylphenyl-sulphonic acids with acid groups of variable strength from animal-vegetable wastes". E. Montoneri, F. Adani, P. L. Genevini, G. Ricca, S. Cherubini, C. Spitaleri. Waste Management, **2004**, 24/5, 513-522. DOI information: 10.1016/j.wasman.2003.09.
 36. "1,10-(1-H-Imidazol-5-Yl)Decanephosphonic Acid: A New Compound With Basic And Acidic Sites To Fabricate Proton Conducting Solid Electrolytes". E. Montoneri, M. C. Gallazzi, C. Bertarelli, R. Gobetto, L. Salassa. Phosphorous, Sulfur, Silicon and Related Elements, **2004**, 179, 1737-1755.
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 39. "Polyalkylphenyl-sulphonic acid with acid groups of variable strength from compost". E. Montoneri, P. Savarino, F. Adani, P.L. Genevini, G. Ricca, F. Zanetti and S. Paoletti. Waste Management, **2003**, 23/6, 523-535
 40. "Evolution and quantitative modification of humin-like matter during high rate composting of pig faeces amended with wheat straw", P. L. Genevini, F. Tambone, F. Adani, H.M. Veeken, K.G.J. Nierop and E. Montoneri. Soil Sci. Plant Nutr. **2003**, 49-6, 785-792
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 49. "Reactivity and effects of cyclodextrins in textile dyeing". P. Savarino, G. Viscardi, P. Quagliotto, E. Montoneri, and E. Barni, Dyes and Pigments 1999, 42, 143-7.
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