

## **SHORT CURRICULUM VITAE PROF. LUCIA D'ACCOLTI**

### **EDUCATION:**

- Enrolled at University of Bari, November 1983; Chemistry Curriculum. Doctorate Degree (equivalent to Master) in Chemistry Sciences, 1990. Thesis in Organic Chemistry, University of Bari (Italy).
- Ausimont (Milan, Italy) Fellow (May 1990-May 1992) and Italian National Research Council (C.N.R.) Fellow (1993) at Chemistry Department, University of Bari.
- Visiting Scholar, Chemistry Department, Brown University, June 2, 1993 to May 28, 1994. Supervisor prof. J. O. Edwards
- Tenured Research Scientist, University of Bari-Chemistry Department. June 1994 to 2019.
- Visiting research, Chemistry Department, UCLA University June 1999-September 2000 and September 2001- November 2001.
- Visiting Professor Department of Chemistry at Brooklyn College of the City University of New York (CUNY) September 2019
- Associate Professor in Organic Chemistry University of Bari-Chemistry Department 2019 to present
- Member of Doctoral School of Chemical Sciences-University of Bari from to 2007
- Member of the Editorial Board for the journal The Scientific World JOURNAL (IF 1,529) and Recent Innovations in Chemical Engineering
- Guest Editor for Molecules (MDPI)
- 85 publications on major journals (h-index 22)
- 43 Congress Communications: 3 as Oral and 4 as Invited speaker

### **TEACHING ACTIVITIES**

- Organic Chemistry Laboratory I (C.d.L. Chemistry, from 2001 to 2017)
- Reaction Mechanisms in organic chemistry (C.d.L. Chemistry, from 2000 to 2006)
- Special Techniques and Organic Synthesis (C.d.L. Chemistry, 1998/99)
- Organic Chemistry (C.d.L. Materials Science, from 2000 to 2002)
- Physical methods in organic chemistry (C.d.L. Materials Sciences, 2006/07)
- Organic Chemistry (C.d.S. in Conservation And Restoration Of Cultural Heritage from 2014 to date)
- Physical organic chemistry (C.d.S. Chemistry Sciences 2017/2018)
- Reaction Mechanisms in organic chemistry (C.d.S. Chemistry Sciences from 2018 to date)

### **INVOLVEMENT IN PROJECTS**

- Scientific Executive Research Project (Local Group Bari) PRIN08 "SELECTIVE OXIDATION OF TARGET MOLECULES USING DIOXIRANES"
- Scientific Executive Project MOSAICOS - MOSAici Interattivi eCO-Sostenibili Codice HOQ3PM3 nell'ambito del bando Regione Puglia INNONETWORK -
- Member of several PRIN and PON Project
- Member of Team for the Proposal 20130032 Soleil Synchrotron: High resolution infrared absorption spectroscopy of cubane C<sub>8</sub>H<sub>8</sub> and 1-aza-adamantane C<sub>9</sub>NH<sub>15</sub>.
- Scientific Executive Research Project with several industries: Bosch, Pepe&Co, Greenswitch

## **RESEARCH INTERESTS:**

Synthesis and reactivity of organic and inorganic peroxides. Selective oxyfunctionalization of hydrocarbons, olefins, alkynes, non-natural (adamantane, binor-S, cubane), and natural target compounds (peptides). Direct oxy-functionalization and spectroscopic characterization of macrocycles from natural sources for the development of new targeted anticancer drugs.

Oxy-functionalizations of SWCNT and MWCNT for smart materials.

Synthesis and application of heterogeneous and homogeneous catalysis for selective oxidation reactions, and for reduction of pollutants in air and water.

Application of photocatalytic methods in the reduction of carbon dioxide.

Synthesis of bio-plastics, Circular Economy.

**Total Publications 85** , **75** on da Scopus e WOS, **4** *conference paper*

*Corresponding authors:* **26** papers

**5** Keynote invited, **1** oral invited

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## PUBLICATION (2015-2021).

1. De Leo, V., Casiello, M.; De luca G., Cotugno, P.; Catucci, L.; Nacci, A.; Fusco, C.; D'Accolti, L. Concerning synthesis of new biobased polycarbonates with curcumin in replacement of bisphenol a and recycled diphenyl carbonate as example of circular economy. *Polymers*, 2021, 13, 361, DOI: 10.3390/polym13030361
2. Caputo, D.; Casiello, M.; Milella, A.; Oberhauser, W.; Maffezzoli, A.; Nacci, A.; Fusco, C. D'Accolti, L.\* Deep Control of Linear Oligomerization of Glycerol using Lanthanum Catalyst on Mesoporous Silica Gel Catalysts, 2020, 10(10), pp. 1-17, 1170, DOI: 10.3390/catal10101170
3. Casiello, M.; Caputo, D.; Fusco, C.; Cotugno, P.; Rizzi, V.; Dell'Anna, M. M.; D'Accolti, L.; Nacci, A. Ionic-Liquid Controlled Nitration of Double Bond: Highly Selective Synthesis of Nitrostyrenes and Benzonitriles, *European Journal of Organic Chemistry*, DOI: 10.1002/ejoc.202001027
4. Armenise, V.; Fanelli, F.; Milella, A.; D'Accolti, L.; Uricchio, A.; Fracassi, F. Atmospheric pressure plasma treatment of polyurethane foams with He–O<sub>2</sub> fed dielectric barrier discharges. *Surfaces and Interfaces*, 2020, 20, 100600 DOI: 10.1016/j.surfin.2020.100600
5. Massaro, M. Casiello, M.; D'Accolti, L.; Lazzara, G.; Nacci, A.; Nicotra, G.; Noto, R.; Pettignano, A.; Spinella, C.; Riela, S. One-pot synthesis of ZnO nanoparticles supported on halloysite nanotubes for catalytic applications *Applied Clay Science* 2020, 189, 105527-105537. DOI:
6. Caputo, D.; Casiello, M.; Laurenza, A. G.; Fracassi, F.; Fusco, C.; Nacci, A.; **D'Accolti, L.\***
7. Preparation of Bio wax esters in continuous flow conditions *ACS Omega* 2019, 4 (7), 12286-12292 DOI:10.1021/acsomega.9b00861
8. Fusco, C.; Annese, C.; **D'Accolti, L.** "Continued Progress Towards Efficient Functionalization of Natural and Non Natural Targets Under Mild Conditions Oxygenation via C–H Bond Activation with Dioxiranes". *Chem. Eur. J.* 2019, 25, 12003-12017 DOI: 10.1002/chem.201901687
9. Bailey, W. D.; Phearman, A. S.; Luconi, L.; Rossin, A.; Yakhvarov, D.; **D'Accolti, L.**; Flowers; S. E.; Kaminsky, W.; Kemp; R. A.; Giambastiani; G.; I. Goldberg, K. I. "Hydrogenolysis of dinuclear PCNR

ligated PdII  $\mu$ -hydroxides and their mononuclear PdII hydroxide analogues." *First published:15 May 2019, Chem. Eur. J.* **2019**, *25*, 1, hot paper, DOI 10.1002/chem.201900507

10. Annese, C.; Caputo, D.; **D'Accolti, L.**; Fusco, C.; Nacci, A.; Rossin, A.; Tuci, G.; Giambastiani, G. "Dioxomolybdenum(VI) Complexes with Salicylamide Ligands: Synthesis, Structure, and Catalysis in the Epoxidation of Olefins under Eco-Friendly Conditions". *European Journal of Inorganic Chemistry*, **2019**, *2*, 221-229. DOI: 10.1002/ejic.201801096
11. Casiello, M.; Catucci, L.; Fracassi, F.; Fusco, C.; Laurenza, A. G.; Di Bitonto, L.; Pastore, C.; **D'Accolti, L.**;\* Nacci, A.\* "ZnO/ionic liquid catalyzed biodiesel production from renewable and waste lipids as feedstocks." *Catalysts*, **2019**, *9* (1), 71. DOI: 10.3390/catal9010071
12. **D'Accolti, L.**; Gajewska, A.; Kierkowicz, M.; Martincic, M.; Nacci, A.; Sandoval, S.; Ballesteros, B.; Tobias, G.; Da Ros, T.; Fusco, C. "Epoxidation of carbon nanocapsules: Decoration of single-walled carbon nanotubes filled with metal halides." *Nanomaterials*, **2018**, *8* (3), 137. DOI: 10.3390/nano8030137
13. Fusco, C.,\* Casiello, M.; Catucci, L.; Comparelli, R.; Cotugno, P.; Falcicchio, A.; Fracassi, F.; Margiotta, V.; Moliterni, A.; Petronella, F.; **D'Accolti, L.** ;\* Nacci, A.\* "TiO<sub>2</sub>@PEI-grafted-MWCNTs hybrids nanocomposites catalysts for CO<sub>2</sub> photoreduction". *Materials*, **2018**, *11* (2), 307. DOI: 10.3390/ma11020307
14. Casiello, M.; Picca, R. A.; Fusco, C.; **D'Accolti, L.**; Leonardi, A. A.; Lo Faro, M. J.; Irrera, A.; Trusso, S.; Cotugno, P.; Sportelli, M. C.; Cioffi, N.; Nacci, A. "Catalytic activity of silicon nanowires decorated with gold and copper nanoparticles deposited by pulsed laser ablation." *Nanomaterials*, **2018**, *8*(2), 78. DOI: 10.3390/nano8020078
15. Laurenza, A. G.; Casiello, M.; Anzivino, M.; Caputo, D.; Catucci, L.; Dell'anna, M. M.; Fusco, C.; Rizzi, V.; Pantone, V.; **D'Accolti, L.**;\* Nacci, A. "Green procedure for one-pot synthesis of azelaic acid derivatives using metal catalysis" *Recent Innovations in Chemical Engineering* **2018**, *11*(3), 185-191. DOI: 10.2174/2405520411666181102162637
16. **D'Accolti, L.**,\* De Vietro, N.; Fanelli, F.; Fusco, C.; Nacci, A.; Fracassi, F.\* "Heterogenization of ketone catalyst for epoxidation by low pressure plasma fluorination of silica gel supports" (*Special Issue*) *Molecules*, **2017**, *22*, 2099; doi:10.3390/molecules22122099

17. Bellebuono, L.; Annese, C.; Catucci, L.; Colafemmina, G.; Comparelli, R.;\* Cotugno, P.; Fracassi, F.; Fusco, C.; Nacci, A.; **D'Accolti, L.** "Evaluating the NO<sub>x</sub> Storage Catalysts (NSC) Aging: A Preliminary Analytical Study with Electronic Microscopy" *Appl. Sci.* **2017**, *7(10)*, 1059; DOI:10.3390/app7101059
18. Pantone, V.; Laurenza, A. G.; Annese, C.; Fracassi, F.; Fusco, C.; Nacci, A.,\* Russo, A.; **D'Accolti, L.\*** "Methanolysis of epoxidized soybean oil in continuous flow conditions". *Industrial Crops & Products* **2017**, *109*, 1–7. DOI: 10.1016/j.indcrop.2017.08.001
19. Pantone, V.; Laurenza, A. G.; Annese, C.; Comparelli, R.; Fracassi, F.; Fini, P.; Nacci, A.; Russo, A.; Fusco, C.;\* **D'Accolti, L.\*** "Preparation and Characterization of Soybean Oil-Based Polyurethanes for Digital Dosing Applications". *Materials* **2017**, *10*, 848-862. DOI:10.3390/ma10080848
20. Pirali, O.; Goubet, M.; Boudon, V.; **D'Accolti, L.**; Fusco, C.; Annese, C. "Characterization of isolated 1-aza-adamantan-4-one (C<sub>9</sub>H<sub>13</sub>NO) from microwave, millimeter-wave and infrared spectroscopy supported by electronic structure calculations." *Journal of Molecular Spectroscopy* **2017**, *338*, 6–14. DOI: /10.1016/j.jms.2017.04.020
21. Pantone, V.; Annese, C.; Fusco, C.; Fini, P.; Nacci, A.; Russo, A.; **D'Accolti, L.** \* "One-Pot Conversion of Epoxidized Soybean Oil (ESO) into Soy-Based Polyurethanes by MoCl<sub>2</sub>O<sub>2</sub> Catalysis" *Molecules*. **2017**, *22*, 333-346. DOI: 10.3390/molecules22020333. (*lavoro prescelto dalla trasmissione TG Leonardo del 6 aprile 2017 e dalla trasmissione buongiorno regione Puglia del 22 marzo 2017*)
22. Annese, C.; **D'Accolti, L.**;\* Fusco, C.; Licini, G.; Zonta, C. \* "Heterolytic (2 e<sup>-</sup>) vs Homolytic (1 e<sup>-</sup>) Oxidation Reactivity: N–H versus C–H Switch in the Oxidation of Lactams by Dioxirans", *Chemistry A European Journal* **2017**, *23*, 259-262. DOI: 10.1002/chem.201604507
- 23.** Boudon V.;\* Lamy, M.; Dugue-Boy, F.; Pirali, O.;\* Gruet, S.; **D'Accolti, L.**;\* Fusco, C.; Annese, C.; Alikhani, M.\* "Synthesis, high-resolution infrared spectroscopy and vibrational structure of cubane, C<sub>8</sub>H<sub>8</sub>" *Journal of Physical Chemistry A* **2016**, *120*, 4418-4428. DOI: 10.1021/acs.jpca.6b04323