STEFANO ALBERTI



Education and Development

Research Grant on PO Region Liguria – FSE 2014/2020 – Code: RLOF18ASSRIC/32/1 Research Project: Antibacterial Membranes for treatment of surfaces and objects in high risk of contamination environments – November 2019/November 2021

University of Genova (GE)

Doctorate School of Science and Technology of Chemistry and Materials Curriculum: Chemical Science and Technology - XXXII Cycle – November 2016/November 2019 - University of Genova (GE)

Thesis entitled: "Synthesis, characterization, optimization and application of TiO₂-based photocatalytic materials for environmental applications related to emerging pollution" was defended on the 20th of March 2020.

The thesis was evaluated as "Excellence CUM LAUDE", it was assigned with the "Doctor Europaeus" label and also assigned with the "International PhD on AOPs" label

Master's Degree in Chemical Science - September 2014/October 2016

University of Genova (GE)

Master in Chemical Sciences – Solid State Chemistry applied to Energy and Materials – degree grade: full marks and honor (110 out of 110, cum laude)

Bachelor's Degree in Chemistry and Chemical Technologies- September 2011/October 2014

University of Genova (GE)

Bachelor of Chemistry and Technological Chemistry – degree grade: full marks (110 out of 110)

Scientific High School Diploma – September 2006/June 2011

Scientific High School "G.D. Cassini" – Sanremo (IM)

Degree grade: full marks (100 out of 100)

Qualification

Scientific Production:

Citational profile:

- Scopus: h-index: 5; number of citations: 76; documents: 11
 Google scholar: h-index: 6; number of citations: 106; documents 14
- 7 oral presentations personally given in national and international conferences and 4 lesson for master students

Academic Publications:

- An Up-To-Date Review on Alginate Nanoparticles and Nanofibers for Biomedical and Pharmaceutical Applications – A. Dodero*, S. Alberti, G. Gaggero, M. Ferretti, R. Botter, S. Vicini, M. Castellano - accepted for publication in Advanced Materials Interfaces 2021 (IF 6.147 – Q2 Chemistry, Materials Science, Multidisciplinary)
- Experimental and Physico-Chemical Comparison of ZnO Nanoparticles' Activity for Photocatalytic Applications in Wastewater Treatment – S. Alberti*, I. Basciu, M. Vocciante, M. Ferretti – Catalysts 2021, 11(6), 678 – DOI 10.3390/catal11060678 (IF <u>4.146 – Q2 Chemistry, Physical</u>)
- Effect of distancing and pattern of breathing on the filtering capability of commercial and custom-made facial masks: an "in-vitro" study L. Ball, S. Alberti*, C. Belfortini, C. Almondo, C. Robba, D. Battaglini, C. Cravero, P. Pelosi, V. Caratto, M. Ferretti –PLoS ONE 2021 16(4): e0250432 DOI 10.1371/journal.pone.0250432 (IF 3.240 Q2 Multidisciplinary Sciences)
- Effect of sodium alginate molecular structure on electrospun membrane cell adhesion A. Dodero, I. Donati, S. Scarfi, S. Mirata, S. Alberti, P. Lova, D. Comoretto, M. Alloisio, S. Vicini, M. Castellano* Materials Science & Engineering C 2021, 124, 112067 DOI 10.1016/j.msec.2021.112067 (IF 7.328 Q1 Materials Science, Biomaterials)
- Functional and morphological changes induced in Mytilus hemocyts by selected nanoparticles M. Auguste*, C. Mayall, F. Barbero, M Hocevar, S. Alberti, G. Grassi,

V. Puntes, D. Drobne, L. Canesi – Nanomaterials 2021, 11, 470 – DOI 10.3390/nano11020470 (IF 5.076 – Q2 Chemistry, Multidisciplinary, Nanoscience & Nanotechnology)

- UV-254 degradation of nicotine in natural waters and leachates produced from cigarette butts and heat-not-burn tobacco products + Supplementary Material S. Alberti, M. Sotiropoulou, E. Fernández, N. Solomou, M. Ferretti, E. Psillakis* Environmental Research 2021, 194, 110695 DOI 10.1016/j.envres.2020.110695 (IF 6.498 Q1 Public, Environmental & Occupational Health, Environmental Sciences)
- Synthesis and characterization of a new photocatalyst based on TiO₂ nanoparticles supported on a magnetic zeolite obtained from iron and steel industrial waste S. Alberti*, V. Caratto, D. Peddis, C. Belviso, M. Ferretti Journal of Alloys and Compounds 2019, 797, 820-825 DOI 10.1016/j.jallcom.2019.05.098 (IF 5.316 Q2 Chemistry, Physical, Materials Science, Multidisciplinary)
- Systematic study on TiO₂ crystallization via hydrothermal synthesis in the presence of different ferrite nanoparticles as nucleation seeds S. Alberti, S. Villa, G. Singh, F. Seland, A. Martinelli, M. Ferretti, F. Canepa, V. Caratto –Journal of Nanoscience and Nanotechnology 2019, 9:8, 4994-4999 DOI 10.1166/jnn.2019.16787 (IF 1.134 Q4 Materials Science, Multidisciplinary, Physics, Condensed Matter)
- Porous Polydimethylsiloxane membranes loaded with low-temperature crystallized TiO₂ NPs for detachable antibacterial films – S. Alberti*, M. Ferretti, S. Vicini, M. Castellano, V. Caratto – Journal of Materials Science 2019, 54, 1665-1676 – DOI 10.1007/s10853-018-2881-4 (IF 4.220 – Q2 Materials Science, Multidisciplinary)
- Photocatalysis in darkness. Optimization of sol-gel synthesis of NP-TiO₂ supported on a persistent luminescence material and its application for the removal of Ofloxacin from water – S. Alberti*, F. Locardi, M. Sturini, A. Speltini, F. Maraschi, G.A. Costa, M. Ferretti, V. Caratto – Journal of Nanomedicine and Nanotechnology 2018, 9:3, 501– DOI 10.4172/2157-7439.1000501(no rank)
- Structural studies on copper and nitrogen doped nanosized anatase A. Martinelli,
 S. Alberti, V. Caratto, P. Lova, F. Locardi, G. Pampararo, S. Villa, M. Ferretti Zeitschrift fuer Kristallographie Crystalline Materials 2018, 233:12, 867-876 DOI 10.1515/zkri-2017-2143 (IF 1.310 Q3 Crystallography)
- Antibacterial activity of standard and N-doped titanium dioxide-coated endotracheal tubes: an in-vitro study V. Caratto, L. Ball, E. Sanguineti, A. Insorsi, I.

Firpo, S. Alberti, M. Ferretti, P. Pelosi – Revista Brasileira de Terapia Intensiva 2017, 29:1, 55-62 - DOI: 10.5935/0103-507X.20170009 (no rank)

- Different sol-gel preparations of iron-doped TiO₂ nanoparticles: characterization, photocatalytic activity and cytotoxicity V. Caratto, F. Locardi, S. Alberti, E. Sanguineti, A. Martinelli, T. Balbi, L. Canesi, M. Ferretti Journal of Sol-Gel Science and Technologies 2016, 80:1, 152-159, DOI 10.1007/s10971-016-4057-5. (IF 2.326 Q2 Materials Science, Ceramics)
- Enhancement of TiO₂ NPs activity by Fe₃O₄ nano-seeds for removal of organic pollutants in water S. Villa, V. Caratto, F. Locardi, S. Alberti, M. Sturini, A. Speltini, F. Maraschi, F. Canepa, M. Ferretti Materials 2016, 9, 771, DOI 10.3390/ma9090771 (IF 3.623 Q2 Physics, Condensed Matter; Chemistry, Physical; Q1 Metallurgy & Metallurgical Engineering)

Reviews

 Referee for: Journal of Alloys and Compounds (3), Zeitschrift f
ür Naturforschung A -A Journal of Physical Sciences (2), Journal of Materials Science (1)

Conference documents:

- "Physical-Chemical Characterization of Polydimethylsiloxane Electrospun Fibers" S. Alberti, A. Dodero, G. Chiocchia, S. Vicini, M. Castellano, M. Ferretti – XXVII National Congress of Italian Chemical Society – Online congress – September 14th-23rd, 2021 – <u>oral presentation</u>
- "Synthesis of PeL/TiO₂ Coupled Photocatalyst for Environmental Applications Related to the Emerging Pollution" – S. Alberti, B. Benedetti, L. Romani, M. Rucco, M. Di Carro, E. Magi, M. Ferretti – XXVII National Congress of Italian Chemical Society – Online congress – September 14th-23rd, 2021 – poster presentation
- Seminar on "Advanced Oxidation Processes for Environmental Applications" for Polymer Science students of Industrial Chemistry Master Course, University of Genova, Genova – Italy, February 18th 2021 – <u>oral presentation</u>
- "PDMS polymeric membrane loaded with TiO₂ NPs with antibacterial properties" S.
 Alberti, A. Dodero, S. Vicini, M. Castellano, V. Caratto, M. Ferretti MACROGIOVANI
 Digital Edition June 26th 2020 <u>oral presentation</u>
- Seminar on "Emerging Pollutants' Threat" for University of Third Age Auditors, Natural, Physical and Mathematical Sciences course, University of Genova, Genova – Italy, May 28th 2020 – <u>oral presentation</u>

- Seminar on "Photocatalysis for Environmental Applications" for Master Degree Students in Chemical Science, Environmental Physical Chemistry course, University of Genova, Genova – Italy, May 20th 2020 – <u>oral presentation</u>
- "Synthesis of a TiO₂-based photocatalyst supported on a magnetic zeolite obtained from industrial waste for environmental remediation" S. Alberti, V. Caratto, D. Peddis, C. Belviso, M. Ferretti CDCF19 "XLVII Congresso Nazionale di Chimica Fisica" University "Sapienza" of Roma, Roma Italy, July 1st-4th 2019 <u>oral presentation</u>
- Seminar on "Emerging Pollution" for Master Degree Students in Chemical Science, Environmental Physical Chemistry course, University of Genova, Genova – Italy, April 20th 2018 – <u>oral presentation</u>
- "Synthesis and characterization of a new photocatalyst based on TiO₂ nanoparticles supported on magnetic materials from iron and steel industrial waste" M. Ferretti, V. Caratto, S. Alberti, D. Peddis, M. Sturini, A. Speltini, F. Maraschi, C. Belviso ISMANAM2018 "25th International Symposium on Metastable, Amorphous and Nanostructured Materials" Roma Italy, July 2nd–6th 2018 poster presentation
- "Porous PDMS membranes loaded with bare and N-doped TiO₂ NPs for antibacterial coatings" S. Alberti, I. Basciu, A. Saperdi, S. Vicini, M. Castellano, M. Ferretti, V. Caratto CABC2018 "XVII Congresso Nazionale di Chimica dell'ambiente e dei Beni Culturali: la tutela dell'ambiente e dei beni culturali in un mondo che cambia" Genova Italy, June 24th-27th 2018 <u>oral presentation</u>
- "NPs TiO₂ supported on sepiolites: a photocatalytic tool for emerging pollution" F. Fossati, S. Alberti, M. Ricci, M. Sturini, A. Speltini, F. Maraschi, V. Cartto, M. Ferretti CABC2018 "XVII Congresso Nazionale di Chimica dell'ambiente e dei Beni Culturali: la tutela dell'ambiente e dei beni culturali in un mondo che cambia" Genova Italy, June 24th-27th 2018 poster presentation
- "Synthesis and characterization of a new photocatalyst based on TiO₂ nanoparticles supported on magnetic materials from iron and steel industrial waste" M. Ferretti, V. Caratto, S. Alberti, P. Rizzo, D. Sangaletti, D. Peddis, M. Sturini, C. Belviso, A. Speltini CABC2018 "XVII Congresso Nazionale di Chimica dell'ambiente e dei Beni Culturali: la tutela dell'ambiente e dei beni culturali in un mondo che cambia" Genova Italy, June 24th-27th 2018 poster presentation
- "Porous PDMS membranes loaded with TiO₂ NPs for detachable antibacterial coatings" S. Alberti, I. Basciu, S. Vicini, M. Castellano, M. Ferretti, V. Caratto GIFC18

"IX Edizione delle Giornate Italo-Francesi" – Genova – Italy, April 16th-18th 2018 – <u>oral</u> presentation

- "PDMS membranes loaded with undoped and doped TiO₂ NPs for antibacterial activity" S. Alberti, V. Caratto, M. Mauri, S. Vicini, M. Castellano, M. Ferretti Applied Nanotechnology and Nanoscience International Conference "ANNIC2017" Roma Italy, October 18th-20th 2017 <u>oral presentation</u>
- "Synthesis optimization and efficiency improvement of a catalytic coupled system of NPs TiO₂ - NPs ZnO supported on a persistent luminescence material" - P. Lova, S. Alberti, V. Caratto, F. Locardi, M. Ferretti, D. Comoretto – European Materials Research Society "E-MRS2017" Fall Meeting – Warsaw – Poland, September 18th-21st 2017 – poster presentation
- "PDMS membranes loaded with TiO₂ NPs: antibacterial activity and self-cleaning properties" S. Alberti, V. Caratto, M. Mauri, S. Vicini, M. Castellano, M. Ferretti XXVI Congresso Nazionale dell Società Chimica Italiana Paestum Italy, September 10th-14th 2017 poster presentation
- "TiO₂-NPs supported on sepiolites: a photocatalytic tool for removal of emerging pollutants" F. Fossati, S. Alberti, M. Sturini, F. Maraschi, A. Speltini, A. Profumo, V. Caratto, M. Ferretti XXVI Congresso Nazionale dell Società Chimica Italiana Paestum Italy, September 10th-14th 2017 poster presentation
- "Removal of pollutants of emerging concern and the treatment of turbid wastewaters: optimization of the synthesis of NP-TiO₂ supported on a persistent luminescence material" S. Alberti, V. Caratto, F. Locardi, M. Ferretti, G.A. Costa, M. Sturini, A. Speltini, F. Maraschi International Conference on Chemistry and the Environment "ICCE2017" Oslo Norway, June 18th-22nd 2017 <u>oral presentation</u>
- "New synthesis of Fe₃O₄-TiO₂ nanopowders for removal of organic pollutants in water"
 V. Caratto, S. Villa, F. Locardi, S.Alberti,M. Sturini, F. Canepa, M. Ferretti XVI Congresso Nazionale sulla Chimica Ambientale e Culturale "From Emergency to Safeguard: Chemistry for a new Development Mode", Lecce – Italy, June 26th-29th 2016 – poster presentation
- "TiO₂ NPs supported on a new persistence luminesce material 'PeL': optimization of the hydrothermal synthesis" - S. Alberti, V. Caratto, E. Sanguineti, F. Locardi, M. Sturini, A. Speltini, F. Maraschi A. Profumo, G.A. Costa, M. Ferretti – XLIV Incontro della Divisione di Chimica Fisica della SCI, Napoli - Italy, September 20th-23rd 2016 – poster presentation

- "Photocatalysis in darkness is possible. The activity of NP-TiO₂ supported on a new persistent luminescence phosphor" V. Caratto, F. Locardi, E. Sanguineti, S. Alberti, M. Sturini, A. Speltini, F. Maraschi, A. Profumo, G.A. Costa, M. Ferretti –Journées Franco-Italiennes de Chimie, Avignon France, April 25th-26th 2016 poster presentation (awarded as best poster presentation)
- "Photocatalytic activity of NPs-TiO₂ supported on a new luminescence phosphor" –
 V. Caratto, F. Locardi, E. Sanguineti, S. Alberti, M. Sturini, A. Speltini, F. Maraschi, A.
 Profumo, G.A. Costa, M. Ferretti ENERCHEM, Firenze Italy, February 18th-20th 2016 –
 poster presentation
- "Study of Interaction of La₂O₃ and molten salts mixture" F. Locardi, V. Caratto, S. Alberti, E. Franceschi, G.A. Costa AICAT XXXVI Congresso Nazionale sulla Calorimetria, Analisi Termica e Termodinamica applicata, Cagliari Italy, September 8th-11th 2014 poster presentation

Conference attendance:

- "XXVII National Congress of the Italian Chemical Society" Online Congress September 14th–23rd 2021
- MACROGIOVANI Digital Edition Microsoft Teams June 26th 2020
- CDCF19 "XLVII Congresso Nazionale di Chimica Fisica" University "Sapienza" of Roma, Roma – Italy, July 1st-4th 2019
- 3rd European Summer School of Environmental Application on Advanced Oxidation Processes – Polytechnic University of Valencia, Alcoy Campus, Alcoy – Spain, June 3rd-7th 2019
- AIM2018 "Advanced Inorganic Materials. Green and Unconventional Synthesis Approaches and Functional Assessment" – University of Padova – Italy, September 5th-8th 2018
- CABC2018 "XVII Congresso Nazionale di Chimica dell'ambiente e dei Beni Culturali: la tutela dell'ambiente e dei beni culturali in un mondo che cambia" - Member of the organizing committee – University of Genova, Genova - Italy, June 24th-27th 2018
- MIE2018 "Microinquinanti e Contaminanti Emergenti: Testimonianze, Soluzioni e Prospettive" – Polytechnic School of Milan, Milano – Italy, June 11th-12th 2018
- GIFC18 "IX Edizione delle Giornate Italo-Francesi" Genova Italy, April 16th-18th 2018
- "V Scuola di Chimica dell'Ambiente e dei Beni Culturali" University of Bologna, Ravenna – Italy, January 22nd-26th 2018

- PRESENCE "Phd students as a bRidge bEtween SciencE aNd society" University of Genova, Genova – Italy, October 27th 2017
- ANNIC2017 "Applied Nanotechnoloy and Nanoscience International Conference" Roma – Italy, October 18th-20th 2017
- "XXVI Congresso Nazionale della Società Chimica Italiana" Paestum Italy, September 10th-14th 2017
- "Dottorato in Chimica: dove siamo e dove vogliamo arrivare" Alma Mater Studiorum – University of Bologna, June 23rd 2017
- ICCE2017 "16th International Conference on Chemistry and the Environment" University of Oslo, Oslo – Norway, June 18th-22th 2017
- 5th Workshop on "Programma PhD Formazione Post Lauream e il mondo del lavoro. Nell'industria chimica, chi fa ricerca fa carriera?" – Polytechnic University of Genova, Genova - Italy, May 24th 2017
- "Synthesis, characterization and properties of intermetallic compounds and intermetalloid clusters" and "Soluble cluster for fabrication of inorganic material" – held by Dr. Thomas Fässler – University of Genova, Genova- Italy, May 11th 2017
- "Nanostructured metal optics: from theory to enhanced spectroscopies, sensing, imaging" – Scuola Normale Superiore, Pisa - Italy, April 1st 2016
- IWIW 2016 "International Workshop on Industrial Waste, Approaches and Technologies for the Recovery of raw materials by complex products end of life" – Member of the organizing committee - University of Genova, Genova - Italy, February 17th 2016

Working Experience

Cultore della Materia for Materials Chemistry C.C.S., Department of Chemistry and Industrial Chemistry, University of Genoa – April 1st 2021

Cultore della Materia for s.s.d. CHIM-02, Department of Chemistry and Industrial Chemistry, University of Genoa – February 22nd 2021

Collaboration with public transport companies' "AMT", Genova, and "TPL", Savona, for the development of an analytical procedure concerning the evaluation of the risks related to the Covid-19 pandemic within transport means – March and April, 2020

Training Project on School/Work Alternation for High School Students – January and February, 2020

2 hours-lesson on "Photocatalysis for Environmental Applications" for first year students of Medical and Pharmaceutical Biotechnologies Master course, held in English – December 11th 2019 and December 22nd 2020

Collaboration with "Associazione Didattica Museale" for educational lessons in the Chemistry Museum of University of Genoa – September 2019 to (attendance in progress)

Collaboration with University of Genova, Genova (GE), for the project of Educational Tutoring Activity (A_FARM_01) – October 2019 to May 2020

Visiting PhD student at Technical University of Crete, Chanià, Greece Department of Environmental Engineering, in care of Professor Elefteria Psillakis January 18th - May 25th, 2019

Collaboration assignment with CNR-ISM

European Project H2020 Fetproact 2016-2017 N.731976 MAGENTA "MAGnetic nanoparticle based liquid ENergy materials for Thermoelectric device Application (DFM.AD003.217) January 1st – December 31st, 2019

Member of the "International PhD School on Advanced Oxidation Processes" network Coordinated by Prof. Luigi Rizzo – September the 20th, 2018

Doctorate School of Science and Technology of Chemistry and Materials Students' Representative in the Department Council, in the Department Board and STC Doctorate Board for XXXII-XXXIII Cycle – 2016/2019

Educational Laboratory about "What we eat" intended for Secondary School Students in collaboration with Cagliari Festival Scienza, during Salone del Libro OFF, Torino (TO) – May 2018

Part of the Project "Porto Aperto", as a collaboration between the Department of Chemistry and Industrial Chemistry and the company of *Porto Petroli di Genova S.p.A* for educational chemistry laboratories for Primary and Secondary School students – February – May 2018 Collaboration with University of Genova, Genova (GE), for the project of Educational Tutoring Activity (A_SMFN_04) – October 2017 to February 2018

Collaboration with Organizing Committee of the "Mole Day" (Department of Chemistry and Industrial Chemistry, Genova (GE)) as informative day for High School students – October 2017, 2018, 2019 and 2020

Collaboration in the Project "Re-Source 4.0" for water supply with Unicef – November 2017

Collaboration with the laboratory research group for the development of surfactants analysis methodology from excavation rocks (Protocol n° 8517 – February the 1st, 2017)

Support work for laboratory educational activity – University of Genova, Genova (GE) Courses:

- Inorganic Chemistry 1 with laboratory (Chemistry and Technological Chemistry), February to May, 2017
- Physical Chemistry 1 with Laboratory (Material Science), November December 2016

September 2014/today

Chemistry lessons for high school and bachelor students (collaboration with International School DIS, Genova (GE)).

2009 to 2012 summer seasons Employer: Micol Costantini, st. S. Lucia 54, Imperia (IM) Waiter, assistant chef, room service, clients' reception

Mother tongue

Italian

Other languages

English

-FCE University of Cambridge, B2 – May the 14th, 2009

-Writing, reading and speaking skills: Excellent

Driving license

В

10