

Lidia Castoldi was born in Milan, the 22nd of July 1973.

Educational biography

She graduated in Industrial Chemistry at University of Milan, Italy in 1998 (march; 106/110).

She got the post-degree Master in Polymers Science School "G. Natta" in 2001 (January; 100/100) at Politecnico of Milan, Italy.

She got the PhD Degree in Industrial Chemistry and Chemical Engineering in May 2004 (PhD from march 2001 to February 2004; discussion 25.04.2004) at Politecnico of Milan, Italy, discussing a dissertation entitled "Pt-Ba/Al₂O₃ NO_x storage-reduction catalysts: characterization and activity".

From 2004 to 2005 (april 2004-january 2005) she holds a post-doc position in the research group of Professor Forzatti at the Department of Chemistry, Materials and Chemical Engineering "Giulio Natta" at Politecnico of Milan, Italy, studying NO_x removal catalysis.

From 2005 to 2015 (17.01.2005-12.04.2015) she holds an academic position as Assistant Professor on Catalysis and Chemical Reaction Engineering at the department of Chemistry, Materials and Chemical Engineering "Giulio Natta" and then at the department of Energy (since 2008) of Politecnico of Milan, Italy.

Since 13.04.2015 she holds an academic position as Associate Professor in the Department of Energy at Politecnico of Milan, Italy.

Teaching Activity Practical Training

2004-2008: Industrial Chemistry I, Fundamentals of Industrial Chemistry, Catalysis and Industrial Catalytic Processes, Biologic Processes, Measurements and Industrial Instrumentation, Preparation of Catalytic Materials for the Chemical Engineering Master (Politecnico of Milan).

Courses

Since 2012: holder of the course "Preparation of Catalytic Materials" (5 CFU) for the Chemical Engineering Master (Politecnico of Milan).

Since 2009 (and 2006-2007): holder of the course "Special Chemical Technologies Fossil Fuels" (5 CFU) for the Chemical Engineering Master (Politecnico of Milan)

2005-2009: Industrial Catalysis and Chemical Reactors for "Didattica e Laboratorio di Impianti Chimici" - Scuola Interuniversitaria Lombarda di Specializzazione per l'Insegnamento Secondario - Sezione di Milano(SILSIS-MI).

Participation in editorial boards of journals, collections of books, encyclopedias and treatises

2017 - Co-editor of the book "NO_x trap catalysts and technologies: Fundamentals and Industrial Applications", Ed. The Royal Society of Chemistry.

Since 2012 she is a member of the Editorial Board of Journal of Catalysis (Hindawi Publishing Corporation), a peer-reviewed, open access journal that publishes original research articles as well as review articles related to all aspects of catalysis.

Awards

2018 - invited speaker to "2nd International Conference on Catalysis and Chemical Engineering", February 19-21, 2018, Paris (France)

2017 – invited speaker to "3rd Annual Automotive Exhaust Systems Summit", October 26-27, 2017, Munich (Germany)

2009- the paper "Development of DPNR catalysts for combined soot oxidation and NO_x reduction" has been selected as Key-note Lecture at the international congress "6th World Congress on Oxidation Catalysis 6WCOC", Lille (France) 5-10 July, 2009

2008- the paper "NO_x adsorption study over Pt-Ba/alumina catalysts: FT-IR and pulse experiments" published in Journal of Catalysis was awarded the Highly Cited Author 2004-2008 (Top-50 most cited articles).

2008- young researcher award at CIMC department of Politecnico of Milan

2007- young researcher award at CIMC department of Politecnico of Milan

2005 - the paper "NO_x storage mechanism over Pt-Ba/Al₂O₃ lean NO_x trap catalysts", presented as a key-note Lecture at the American Chemical Society's Fuel Chemistry and Petroleum Chemistry Divisions entitled "CATALYSIS IN FUEL CHEMISTRY" (229th ACS National Meeting, San Diego, California, March 13-17, 2005) won the "Glenn Award for the San Diego Meeting of the Fuel Chemistry Division".

Reviewer Activities

She acts as reviewer for many international journals, like: Journal of Catalysis, Applied Catalysis A: General, Catalysis Today, Catalysis Letter, Topics in Catalysis, Catalysis Communication, Physical Chemistry Chemical Physics, Chemical Engineering Journal, Energy and Environmental Science, Molecular Catalysis A, Journal of Automobile Engineering.

Industrial Collaborations

2016-2017 - Politecnico of Milan and Toyota Motor Europe "Investigation on N₂O formation / decomposition over NSR / SCR catalysts"

2011-2012 (12 months)-Politecnico of Milan and Pirelli Ecothechnology "Study of SiC filters".

2009-2011 (12+12 months) - Politecnico of Milan and Pirelli Ecothechnology "Study of Lean-DeNOx catalytic systems"

2008-2009 (12 months) - Politecnico of Milan and Corning "Soot oxidation Project"

2005-2006 (6 months) - Politecnico of Milan and Delphi "NOx Trap Research Project"

Collaborations with other universities

Collaboration with the research groups of Prof.ssa Giovanna Ghiotti (Università di Torino, Italy), Prof. Guido Busca (Università di Genova, Italy), Prof. L.J. Alemany (Università di Malaga, Spain), Prof. Marco Daturi (Università di Caen, France) studying LNT and DPNR catalytic systems for the removal of NOx and/or soot from lean and diesel engines.

Master and PhD thesis supervision

She has been co-supervisor of many master and PhD thesis for the degree in Chemical Engineering at Politecnico of Milan.

She participated to the valuation committee of PhD thesis in France and Spain.

Membership

Member of Centro di Eccellenza MIUR per l'Ingegneria dei Materiali e delle Superfici Nanostrutturati (NEMAS). Member of INSTM (Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali).

Member of European Research Networks GDRI ("Catalysis for polluting emissions aftertreatment and production of renewable energies").

Member of Società Chimica Italiana.

Research Activity

Scientific activities can be framed in the branch of catalytic processes of industrial interest, especially relating to environmental sector and is documented by more than 50 scientific articles published on international journals and more than 100 communications at international and national congresses, namely: Europacat, ICC (International Congress on Catalysis), ICEC (International Congress on Environmental Catalysis), NAM meetings (North American Catalysis Society meetings), CAPOC (Catalysis and Automotive Pollution Control), APAC (Air Pollution Abatement Catalysis) and Operando Spectroscopy. She is author of an international patent.

Scientific participation in international and national research projects, selected for funding based on calls that involved competitive peer review

2013 – 2016 (36 months): Research Unit Coordinator of FIRB Futuro in Ricerca 2012: “Fundamental study of gas-soot-catalyst interactions in multi-functional catalytic converters within the automotive sector (Acronym: SOLYST)”.(Studio fondamentale della reattività del sistema gas-particolato-catalizzatore in convertitori catalitici multi-funzionali per applicazioni in campo automotive (Acronimo: SOLYST)).

2009 - MIUR - AZIONI INTEGRATE ITALIA-SPAGNA 2009 (24 months): Titolo della Ricerca: "Rimozione simultanea di NOx e particolato dai gas di scarico di motori Diesel" (Coordinatore italiano: Prof. Luca Lietti, Politecnico di Milano; Coordinatore spagnolo: Prof. L.J. Alemany, Università di Malaga)

2007 - PRIN 2007 (24 months): "New catalytic approaches and innovative regeneration techniques for the control of nanoparticles emissions from diesel engine".

2005 - MIUR - AZIONI INTEGRATE ITALIA-SPAGNA 2005 (24 months): "Analisi dei processi catalitici NOx storage-reduction (NSR) per la rimozione di NOx da sorgenti mobili con sistemi catalitici di riferimento Pt-Ba/allumina" (Coordinatore italiano: Prof. Luca Lietti, Politecnico di Milano; Coordinatore spagnolo: Prof. L.J. Alemany, Università di Malaga)

2003 - PRIN 2003 (24 months): "Development of catalysts for simultaneous NOx and soot removal from Diesel engines