Mostoni Silvia

Post-doctoral position

University of Milano-Bicocca

Department of Materials Science

Current position
From April 1st 2020

Research project: *Design and functionalization of carbon-based nanostructures through soft-chemistry techniques for energy conversion and storage*

EDUCATION AND TRAINING

From November 2015 to October 2018

Ph.D. in Materials Science and Nanotechnology XXXI cycle
University of Milano-Bicocca, Department of Materials Science
Research project: From nanosized to single sites zinc-based activators for rubber vulcanization process

From October 2013 to October 5th 2015

Master's degree in Chemical Sciences at University of Milan
Master Thesis: A highly toxic aromatic amine, o-toluidine. Its innovative detection and subsequent photoremoval by Bi-doped ZnO nanoparticles

From October 2010 to October 16th 2013

Bachelor's Degree in Chemistry at University of Milan
Bachelor Thesis: NO_X and VOC photodegradation. Use of nanometric titania and its application in coatings

PROFESSIONAL EXPERIENCE

From February 1st 2019 to January 31st 2020

1 year - Post-doctoral position
University of Milano-Bicocca
Department of Materials Science
Research project: Vulcanization additives for elastomeric materials

From January 2018 to August 2018

Visiting research student at Stanford University, Palo Alto, USA
Research activity during the Ph.D. programme; study of the relationships between the structural properties and the catalytic activity of metal-based materials

TEACHING AND TUTORING ACTIVITIES

February 2020

Collaboration National Plan for promoting Scientific Degrees 2020
University Milano Bicocca, Department of Materials Science

March 2019 – May 2019

Curricular educational activity (24 hours) for degree course in Chemistry
Teaching course: Inorganic Chemistry and Laboratory
University Milano Bicocca, Department of Materials Science

February 2019

Collaboration (16 hours) National Plan for promoting Scientific Degrees 2019
University Milano Bicocca, Department of Materials Science

November 2018 – January 2019 **Curricular educational activity** (30 hours) for degree course in Materials Science
Teaching course: Laboratory of General and Inorganic Chemistry
University of Milano Bicocca, Department of Materials Science

November 2017 – January 2018 **Curricular educational activity** (30 hours) for degree course in Materials Science
Teaching course: Laboratory of General and Inorganic Chemistry
University of Milano Bicocca, Department of Materials Science

November 2016 – January 2017 **Curricular educational activity** (60 hours) for degree course in Materials Science
Teaching course: Laboratory of General and Inorganic Chemistry
University of Milano Bicocca, Department of Materials Science

April 2016 – May 2017 **Curricular educational activity** (24 hours) for degree course in Chemistry
Teaching course: Inorganic Chemistry and Laboratory
University of Milano Bicocca, Department of Materials Science

PERSONAL SKILLS

- Use of all different browser for the online research
- Use of data base for the research of scientific literature (Scopus, Scifinder, Scholar)
- Use of specific scientific instruments and their software: Gas Chromatography (GC), Liquid Phase Chromatography (HPLC), Total Organic Carbon TOC, FT-IR, XRPD, Voltammetry, Spectrophotometry, SEM-EDX, Spin Coater, Mass Spectrometry (MS)
- Software of data elaboration: Origin, Nova, Ez-Omnic, Quanto, QualX, Analyst QS Software

ADDITIONAL INFORMATION

Publications

- R. Crapanzano, I. Villa, S. Mostoni, M. D'Arienzo, B. Di Credico, M. Fasoli, R. Scotti, A. Vedda, Nanomaterials, 2020, 10, 1983.
  Morphology Related Defectiveness in ZnO Luminescence: From Bulk to Nano-Size

- S. Mostoni, P. Milana, B. Di Credico, M. D'Arienzo, R. Scotti, Catalysts, 2019, 9, 664.
  Zinc-based curing activators: new trends for reducing zinc content in rubber vulcanization process

- M. D'Arienzo, S. Mostoni, R. Crapanzano, C. Cepek, B. Di Credico, M. Fasoli, S. Polizzi, A. Vedda, I. Villa, R. Scotti, Journal of Physical Chemistry C, 2019, 123, 21651-21661.
  Insight into the influenze of ZnO defectivity on the catalytic generation of environmentally persistent free radicals in ZnO/SiO_2 systems

- V. Trifilleti, S. Mostoni, F. Butrichi, M. Acciarri, S. Binetti, R. Scotti, Chemistry Select, 2019, 4 4905-4912.
  Study of precursor-inks designed for high quality Cu_2ZnSnS_4 films for low-cost application

- A. Susanna, M. D'Arienzo, B. Di Credico, L. Giannini, T. Hanel, R.

Grandori, F. Morazzoni, S. Mostoni, C. Santambrogio, R. Scotti, European Polymer Journal, 2017, 93, 63-74.
Catalytic effect of ZnO anchored silica nanoparticles on rubber vulcanization and cross-link formation

- E. Pargoletti, S. Mostoni, G. Rassu, V. Pifferi, D. Meroni, L. Falciola, E. Davoli, M. Marelli, G. Cappelletti, Environmental Science and Pollution Research, 2017, 24 (9) 8287-8296.
Zn- vs Bi-based oxides for o-toluidine photocatalytic treatment under solar light

- S. Mostoni, V. Pifferi, L. Falciola, D. Meroni, E. Pargoletti, E. Davoli, G. Cappelletti, Journal of Photochemistry and Photobiology A: Chemistry, 2017, 332, 534-545.
Tailored routes for home-made Bi-doped ZnO nanoparticles. Photocatalytic performances towards o-toluidine, a toxic water pollutant.

- G. Cappelletti, V. Pifferi, S. Mostoni, L. Falciola, C. Di Bari, F. Spadavecchia, D. Meroni, E. Davoli, S. Ardizzone, Royal Society of Chemistry Chemical Communications, 2015, 51, 10459-10462.
Hazardous o-toluidine mineralization by photocatalytic bismuth doped ZnO slurries.

Patents

- **Italian patent**
A. Susanna, R. Donetti, T. Hanel, R. Scotti, B. Di Credico, S. Mostoni, M. D'Arienzo, *Processo per la preparazione di mescole per pneumatici e pneumatici che le comprendono.* Submitted on 28/11/2018, N. Italian Patent 102018000010654.

Conferences

- **Invited speaker**
Safe Vulca Workshop on Rubber Reinforcing and Vulcanization Technology, 2-3 December 2019
S. Mostoni, The mechanism of Vulcanization Reaction

- **Poster presentation**
Expert Forum on Sustainable Mobility 2019, Torino, 8-9 October 2019
R. Scotti, S. Mostoni, B. Di Credico, M. D'Arienzo, A. Susanna, R. Donetti, *Safer reduction of ZnO amount in rubber vulcanization process*

- **Oral communication**
XII Convegno Nazionale Girse, Padova, 23-25 September 2019
M. D'Arienzo, S. Mostoni, R. Crapanzano, B. Di Credico, A. Vedda, R. Scotti, *Catalytic generation of Environmentally persistent free radicald in ZnO/SiO2 systems: the role of ZnO defectivity*

- **Oral communication**
International Rubber Conference 2019, Londra, 3-5 September 2019
R. Scotti, S. Mostoni, M. D'Arienzo, B. Di Credico, A. Susanna, R. Donetti, *Nanosized and single site zinc-based activators onto silica for reducing ZnO in rubber vulcanization process*

- **Oral communication**
XII convegno INSTM – XV convegno AIMAT, Ischia Porto, 21-24 July 2019
S.Mostoni, C.Marano, M.D'Arienzo, B.Di Credico, A.Susanna, R.Scotti, *Effect of zinc oxide distribution on vulcanization efficiency and mechanical properties of rubber nanocomposites*

- **Oral communication**
Women in Science, University of Milano Bicocca, 13-14 May 2019
S. Mostoni, *Verso pneumatici sempre più verdi*

- **Oral communication**
  Advanced Inorganic Materials 2018, Padova, Italia, 5-7 September 2018
  S.Mostoni, A.Susanna, M.D'Arienzo, B.Di Credico, T.Hanel, F.Morazzoni, R.Scotti, *Towards the up-scaled production of highly dispersed ZnO nanoparticles on silica as novel catalysts for the industrial rubber vulcanization process*

- **Poster presentation**
  8th European Kesterite workshop, Barcellona, Spagna, 8-10 November 2017
  V. Trifiletti, **S.Mostoni**, F.Butrichi, S.Binetti, R.Scotti, *Monolithic gel formation of high quality Cu_2ZnSnS_4 thin films*

- **Poster presentation**
  Italian Crystal Growth ICG 2017, Milano, Italia, 20-21 November 2017
  S.Mostoni, V. Trifiletti, S.Binetti, R.Scotti, *High quality Cu_2ZnSnS_4 thin films for photovoltaic applications*

- **Poster presentation**
  XI National Conference on Materials Science and Nanotechnology, Ischia, Italia, 12-15 July 2017
  R. Scotti, M. D'Arienzo, B. Di Credico, F. Morazzoni, S. Mostoni, A. Susanna, *ZnO nanoparticles anchored to silica filler as curing accelerator for rubbe composites*

- **Poster presentation**
  Italian-Nordic Polymer Future, Pisa, Italy, 14-15 September 2017
  S.Mostoni, M. D'Arienzo, B. Di Credico, F. Morazzoni, A. Susanna, R. Scotti, *ZnO nanoparticles anchored to silica as reinforcing filler and curing accelerator for rubber nanocomposites*

- **Poster presentation**
  Solar Chemistry and Photocatalysis: Environmental Application (SPEA 9), Strasburgo, Francia, 13-17 June 2016
  E. Pargoletti, S. Mostoni, G. Rassu, V. Pifferi, D. Meroni, L. Falciola, G. Cappelletti, *From UV to solar irradiation sources: ZnO versus Bi_2O_3 photocatalytic performances*

- **Poster presentation**
  Training School and Workshop, Functional Hybrid Materials, structure elucidation from molecular to macro level, Stoccolma, Svezia, 25-27 May 2016
  S. Mostoni, M. D'Arienzo, B. Di Credico, L. Giannini, R. Grandori, F. Morazzoni, C. Santambrogio, R. Scotti, A. Susanna, *ZnO nanoparticles anchored to silica particles as curing activator for rubber nanocomposites*

- **Poster presentation**
  Giornate dell'Elettrochimica Italiana (GEI 2015), Bertinoro, Italia, 20-24 September 2015
  V. Pifferi, **S. Mostoni**, G. Cappelletti, L. Falciola, *Nanomaterials for modified electrodes: reasons of their increased electroanalytical performances*

- **Oral communication**
  6th International Conference on Nanotechnology Fundamentals and Applications (ICNFA 2015), Barcellona, Spagna, 15-17 July 2015
  G. Cappelletti, S. Mostoni, V. Pifferi, D. Meroni, L. Falciola, S. Ardizzone,
  o-Toluidine photodetoxification by bismuth doped ZnO nanopowders

- **Poster presentation**
  Partecipazione a congresso GS Parma 2015 "Sensori e biosensori, stato dell'arte e nuove prospettive", Parma, Italia, 15-17 June 2015
  V. Pifferi, **S. Mostoni**, E. Pargoletti, *Detection of organic pollutants in water: what material?*