

# Angelo Maspero, PhD

## Curriculum Vitae

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**Current Position** Assistant Professor in Inorganic Chemistry

**Professional Address** Dipartimento di Scienza e Alta Tecnologia

Via Valleggio 9, 22100 – Como - Italy

Università degli Studi dell'Insubria

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**Citizenship** Italian

- Education**
- 1989 High School degree as Chemical Engineer I.T.C. "Paolo Carcano", Como (Italy).
  - 1995 Graduation (Laurea degree = 5 years degree ) in Chemistry from Università Statale degli Studi di Milano; title of the dissertation: "*Molecular Oxygen Activation and Characterization of Reactions Intermediates: Oxidative Coupling of Aromatic Primary Amines Catalyzed by Pyrazolate Complexes of Copper(I)*."
  - 1998 PhD graduation in Chemical Sciences from Università Statale degli Studi di Milano; title of the dissertation: "*The role of Pyrazolate Ligand in Building Polynuclear Transition Metal Systems*"

- Professional Experience (non-permanent positions)**
- 1995 Qualifying examination to qualify as a Chemist
  - 1998-1999 Post-doctoral position at the Laboratory of Molecular Structure and Bonding of the Texas A&M University (College Station TX, USA), under the supervision of Prof. J. P. Fackler (Photoluminescent properties of coordination compounds)

- Professional Experience (permanent positions)**
- 1999-present Assistant Professor in Inorganic Chemistry at the Dipartimento di Scienza e Alta Tecnologia at the Università degli Studi dell'Insubria, Como – Italy

**Research interests  
and area of scientific  
activity**

- COORDINATION AND ORGANOMETALLIC CHEMISTRY: Synthesis, Spectroscopy, Reactivity.
- HOMOGENEOUS CATALYSIS: Molecular dioxygen reactivity: Oxidation and oxygenation of organic substrates. Carbon dioxide activation and functionalization: Catalytic formation of C-C, C-N and C-O bonds. Organic synthesis assisted by metal centers: Polymerization and oligomerization of alkynes. Cyclopropanation of alkenes.
- INORGANIC MATERIALS: Synthesis and spectroscopic characterization of coordination polymers. Photoluminescent properties of coordination compounds.

**Publications on  
international peer-  
reviewed journals**

- Giani, A.M., Lamberti, M., **Maspero, A.**, Cimino, A., Negri, R., Giovenzana, G. B., Palmisano, G., Nardo, L..  
"Fluorescence studies on 2-(het)aryl perimidine derivatives "  
*Journal of Luminescence* **2016**, *179*, 384-392.
- Lucerelli, C., Galli, S., **Maspero, A.**, Cimino, A., Bandinelli, C. Lolli, A., Velasques Ochoa, J., Vaccari, A., Cavani, F., Albonetti, S..  
"Adsorbent-Adsorbate interactions in the oxidation of HMF catalysed by Ni-based MOFs: A DRIFT and FT-IR insight "  
*Journal of Physical Chemistry C* **2016**, *120*, 15310-15321.
- Artali, R., Baranyai, Z., Botta, M. , Giovenzana, G.B., **Maspero, A.**, Negri, R., Palmisano, G., Sisti, M., Tollari, S..  
"Solution thermodynamics, computational and relaxometric studies of ditopic DO3A-based Mn(II) complexes "  
*New Journal of Chemistry* **2015**, *39*, 539-547.
- Colombo, V., **Maspero, A.**, Nardo, L., Aprea, A., Linares, F., Cimino, A., Galli, S..  
"Synthesis, structural features and luminescence properties of a 1-D poly(azolato)-based coordination polymer "  
*Polyhedron* **2015**, *92*, 130-136
- Lamperti, M. , **Maspero, A.** ,Tønnesen, H.H. , Bondani, M.c , Nardo, L. "Catalytic amination of unsaturated hydrocarbons: reactions of p-nitrophenyl azide with alkenes catalysed by metalloporphyrins"  
*Molecules* **2014**,*19*,13282-13304
- Galli, S. , **Maspero, A.** , Giacobbe, C., Palmisano, G., Nardo, L., Comotti, A., Bassanetti, I., Sozzani, P., Masciocchi, N.  
"When long bis(pyrazolates) meet late transition metals: Structure, stability and adsorption of metal-organic frameworks featuring large parallel channels "  
*Journal of Materials Chemistry A* **2014**, *2*, 12208-12221
- Bertolotti, F., **Maspero, A.**, Cervellino, A., Guagliardi, A. , Masciocchi, N.  
"Bending by faulting: A multiple scale study of copper and silver nitropyrazolates "  
*Crystal Growth and Design* **2014**, *14*, 2913-2922
- **Maspero, A.**, Giovenzana, G.B., Masciocchi, N., Palmisano, G., Comotti, A., Sozzani, P., Bassanetti, .C, Nardo,L.  
" Möhlau's anthradipyrazole revisited: A new look at an old molecular system "  
*Crystal Growth and Design* **2013**, *13*, 4948-4956

- Padiál, N.M., Quartapelle Procopio, E., Montoro, C., López, E., Oltra, J.E., Colombo, V., **Maspero, A.**, Masciocchi, N., Galli, S., Senkowska, I., Kaskel, S., Barea, E., Navarro, J.A.R.  
 " Highly hydrophobic isoreticular porous metal-organic frameworks for the capture of harmful volatile organic compounds "  
*Angewandte Chemie - International Edition* **2013**, 52, 8290-8294
- Albanese, E., Civalleri, B.a, Ferrabone, M., Bonino, F., Galli, S., **Maspero, A.**, Pettinari, C.  
 " Theoretical and experimental characterization of pyrazolato-based Ni(ii) metal-organic frameworks "  
*Journal of Materials Chemistry* **2012**, 22, 22592-22602
- Nardo, L., **Maspero, A.**, Selva, M., Bondani, M., Palmisano, G., Ferrari, E  
 " Excited-state dynamics of bis-dehydroxycurcumin carboxylic acid, a water-soluble derivative of the photosensitizer curcumin "  
*Journal of Physical Chemistry A* **2012**, 116, 9321-9330
- Colombo, V., Montoro, C., **Maspero, A.**, Palmisano, G., Masciocchi, N., Galli, S., Barea, E., Navarro, J.A.R  
 " Tuning the adsorption properties of isoreticular pyrazolate-based metal-organic frameworks through ligand modification "  
*Journal of the American Chemical Society* **2012**, 134, 12830-12843
- Cervellino, A., **Maspero, A.**, Masciocchi, N., Guagliardi, A.  
 " From paracrystalline Ru(CO) 4 1D polymer to nanosized ruthenium metal: A case of study through total scattering analysis "  
*Crystal Growth and Design* **2012**, 12, 3631-3637
- Colombo, V., Galli, S., Choi, H.J., Han, G.D., **Maspero, A.**, Palmisano, G., Masciocchi, N., Long, J.R.  
 " High thermal and chemical stability in pyrazolate-bridged metal-organic frameworks with exposed metal sites "  
*Chemical Science* **2011**, 2, 1311-1319
- *Procopio, E.Q., Linares, F., Montoro, C., Colombo, V., Maspero, A., Barea, E., Navarro, J.A.R*  
 " Cation-exchange porosity tuning in anionic metal-organic frameworks for the selective separation of gases and vapors and for catalysis "  
*Angewandte Chemie - International Edition* **2010**, 49, 7308-7311
- Masciocchi, N., Galli, S., Colombo, V., **Maspero, A.**, Palmisano, G., Seyyedi, B., Lamberti, C., Bordiga, S.  
 " Cubic octanuclear Ni(II) clusters in highly porous polypyrazolyl-based materials "  
*Journal of the American Chemical Society* **2010**, 132, 7902-7904
- Galli, S., Masciocchi, N., Colombo, V., **Maspero, A.**, Palmisano, G., López-Garzón, F.J., Domingo-García, M., Fernández-Morales, I.  
 " Adsorption of harmful organic vapors by flexible hydrophobic bis-pyrazolate based MOFs"  
*Chemistry of Materials* **2010**, 22, 1664-1672

- **Maspero, A.**, Galli, S., Colombo, V., Peli, G., Masciocchi, N., Stagni, S., Barea, E., Navarro, J.A.R  
" Metalorganic frameworks based on the 1,4-bis(5-tetrazoly) benzene ligand: The Ag and Cu derivatives "  
*Inorganica Chimica Acta* **2009**,362, 4340-4346
- Ardizzoia, G.A. , Brenna, S., Castelli, F., Galli, S. , Masciocchi, N., **Maspero, A**  
" Synthesis and characterization of 2-aminobenzoimidazolate group 11 coordination polymers: A combined X-ray powder diffraction and <sup>13</sup>CP MAS NMR study "  
*Inorganic Chemistry Communications* **2008**, 11, 502-505
- *Alberti, E., Ardizzoia, G.A., Brenna, S., Castelli, F., Galli, S., **Maspero, A.***  
*"The synthesis of a new dithiophosphonic acid and its coordination properties toward Ni(II): A combined NMR and X-ray diffraction stud"*  
*Polyhedron* **2007**, 26, 958-966

#### Participation to Research Projects Fundings

- **CARIPLO 2011** – Metal-Organic-based Nanocrystal Arrays with Large Induced Shape Anisotropy (MONA LISA) (Project Number: 2011-0289)

#### Languages

- Italian (mother tongue)
- English (good)

#### Participations to congresses, schools and symposia

- EUCHEM CONFERENCE II, Nitrogen Ligands in Organometallic Chemistry and Homogeneous Catalysis. 9-14t June 1996, Como, Italy
- EPDIC-5, 5th European Powder Diffraction Conference, Parma, 25t-28, May 1997, Parma Italy
- XXV CONGRESSO DI CHIMICA INORGANICA, 1-4 September 1997 Alessandria Italy.
- ISHC-11, International Symposium on Homogeneous Catalysis 12-17 July 1998 St. Andrews Scotland
- ISHC-12, International Symposium on Homogeneous Catalysis 27 August – 1 September 2000 Stockholm, Sweden
- XXIX CONGRESSO DI CHIMICA INORGANICA, , 25-29 September 2001 Giardini Naxos – Taormina, Italy
- XXI CONGRESSO NAZIONALE DELLA SOCIETÀ CHIMICA ITALIANA, 22-27 June 2003 Torino Italy
- XXXV CONGRESSO NAZIONALE DELLA SOCIETÀ CHIMICA ITALIANA, 3-7 September 2007, Milano, Italy

#### Teaching experience

- 2000-2002 Course of Laboratory of Inorganic Chemistry in Laurea Degree (5 years degree) in Chemistry at the Università degli Studi dell'Insubria.
- 2002-2005 Course of Laboratory of General and Inorganic Chemistry in Laurea Degree (5 years degree) in Chemistry at the Università degli Studi dell'Insubria

- 2003-2009 Course of Physical Methods for Inorganic Chemistry Synthesis in Specialistic Laurea Degree (Master) in Chemical Sciences at the Università degli Studi dell'Insubria
- 2010-2011 Course of Advance Inorganic Chemistry in Specialistic Laurea Degree (Master) in Chemical Sciences at the Università degli Studi dell'Insubria
- 2007/2010 Course of General and Inorganic Chemistry in Laurea Degree (Bachelor) in Environmental Sciences at the Università degli Studi dell'Insubria
- 2013 - present Course of Synthesis Techniques in Inorganic Chemistry in Laurea Degree (Bachelor) in Industrial Chemistry at the Università degli Studi dell'Insubria
- 2013 – present Course of Solid State NMR Spectroscopy: Principles and Applications in Ph. D. Program in Chemical and Environmental Sciences

#### **Technical abilities**

- Schlenk and dry box Techniques for the synthesis and the manipulation of air sensitive compounds
- Purification and separation techniques (crystallization, distillation, chromatography, extractions, etc)
- Spectroscopic methods and instrumentation abilities of common utility and use in Inorganic and organometallic chemistry labs
- Use of NMR spectrometer (Bruker AC-200, 200 MHz, AC-300, 300 MHz, and Avance 400, 400 MHz), I.R. (Biorad FTS-7, Perkin Elmer FT-IR 1600, FT-IR, Nicolet iS10), Gas-Chromatography (Hewlett-Packard 5890 serie II, Dani.), GC.-Mass Spectrometry (Hewlett-Packard 5971, Shimadzu, Finnigan Trace MS), HPLC (Shimadzu), CHNS/O Analyzer 2400 (Perkin Elmer), thermal analysis (STA Netzsch), Fluorescence Spectrophotometer (PTI)
- On-line research database (Reaccs, Ovid, Beilstein-CrossFire, Gmellin, Sci-Finder Scholar, ISI Web of Knowledge, Scopus, Merck Index, Scirus, Reaxys)

#### **Other teaching and related experience**

- 2003-present Tutoring activity for undergraduate and graduate students in Bachelor and Master Dissertations at the Università degli Studi dell'Insubria
- 2003-present Supervisor of undergraduate and PhD Students at the Università degli Studi dell'Insubria
- 2008-present Supervisor of Post-Doctoral students

#### **Other didactical and organization tasks**

- 2003-2012 Member of the PhD School Committee in Chemical Sciences at the Università degli Studi dell'Insubria
- 2013-present Member of the PhD School Committee in Chemical and Environmental Sciences at the Università degli Studi dell'Insubria
- 2010-present Member of the Technical and Scientific Committee GRATT (Centro Grandi Attrezzature per la Caratterizzazione della Materia) at the Università degli Studi dell'Insubria