



Stefano Brenna – Curriculum Vitae

Personal details

Current position: Assistant Professor
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Professional experiences

January 2009 – present

Permanent position as Assistant Professor, Inorganic Chemistry –
Department of Science and High Technology (University of Insubria, Como, Italy)

January 2006 – December 2008

Provisional position as a Researcher associate, Inorganic Chemistry –
Department of Chemical and Environmental Sciences (University of Insubria, Como, Italy)

June 2004 – June 2005

Postdoctoral Position (Alexander von Humboldt Fellowship) at University of Heidelberg (Germany), in the Research Group led by Prof. J. Bluemel. Research topic: Spectroscopic characterization (^{14}N NMR, one- and two-dimensional suspension ^1H and ^{13}C NMR) of ionic liquids immobilized on silica

Education

January 2004 PhD Degree in Chemical Sciences at University of Insubria (Como),
under the supervision of Prof. G.A. Ardizzoia. Thesis title: *“Formation of C-C bonds: synthesis, characterization and catalytic activity of coordination compounds containing azolate ligands”*.

July 2000 Master Degree in Chemistry at University of Insubria (Como),
under the supervision of Prof. G.A. Ardizzoia. Thesis title: *“Catalytic formation of new C-C bonds. Alkynes oligomerization reactions catalyzed by low oxidation state molybdenum complexes”*

Grants and Memberships

February 2004 - May 2004 Research Grant from CIRCC (Interuniversity Consortium of Chemical Reactivity and Catalysis). Research focus: Olefin cyclopropanation reactions catalyzed by TM-azolate complexes

August 2005 - November 2005	Research Grant from the Chemical and Environmental Sciences Department (University of Insubria, Como, Italy)
October 2003 – present	Member of the Italian Chemical Society (SCI) – Inorganic Chemistry Division
April 2011 – May 2015	Affiliate Member of the Royal Society of Chemistry
June 2015 – present	Associate Member of the Royal Society of Chemistry (AMRSC)

Teaching

Bachelor Degree in Chemistry (at Dep. of Chemical and Environmental Science, then Dep. of Science and High Technology)

January 2006 – September 2014	General Chemistry Course - General and Inorganic Chemistry Laboratory
October 2014 – present	General Chemistry Laboratory
October 2015 – present	Inorganic Chemistry Laboratory

Bachelor Degree in Physics (at Department of Science and High Technology)

October 2015 – present	General Chemistry Course
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Other activities

2015 – present	Insubria Delegate in CIRCC (Interuniversity Consortium of Chemical Reactivity and Catalysis)
October 2013	External Member of Jury in a PhD Thesis defence (Faculty of Science, University of Neuchâtel, Switzerland)
2012 – present	Member of the Staff working on Orienteering Programs of the Department of Science and High Technology (“National Program for Scientific Degrees”, “Alternanza Scuola Lavoro”, “SCI – Chemistry Olympic s”)
2010 – present	Peer Reviewer for <i>Coordination Chemistry Reviews, Inorganic Chemistry, Organometallics, European Journal of Inorganic Chemistry, Crystal Growth & Design, Journal of Molecular Catalysis A, Journal of Luminescence, Inorganica Chimica Acta, Journal of the Serbian Chemical Society, the American Chemical Society Petroleum Research Fund, Italian Ministero dell’Istruzione, Università e Ricerca (MIUR)</i>

Research interests

The research mainly explores diverse aspects of transition metals-based coordination and organometallic compounds, from the design of ligands to the synthesis and full spectroscopic characterization of the resulting metal-containing derivatives. In the past, the main focus has been the investigation of these compound as potential catalysts for fine chemicals synthesis (C-C or C-E bond forming reactions) or as hybrid inorganic-organic materials. More recently, in addition to these consolidated topics, the attention has been directed toward the synthesis and structural characterization of d^{10} -metals luminescent compounds, with the aim of studying structure-properties relations.

Selected Publications

Bassoli, S.; Ardizzoia, G. A.; Therrien, B.; **Brenna, S.** "Phosphorescence enhancement by close metal-metal interaction in T1 excited state in a dinuclear copper(I) complex". *Dalton Trans.* 48 (2019) 9276-9283.

Ardizzoia, G. A.; **Brenna, S.** "Carbene transfer and carbene insertion reactions catalyzed by a mixed-ligand copper(I) complex". *European Journal of Organic Chemistry* (2018) 3336-3342.

Ardizzoia, G. A.; **Brenna, S.**; Civati, F.; Colombo, V.; Sironi, A. "A phosphorescent copper(I) coordination polymer with 3,5-dimethyl-4-sulphonate pyrazolate". *CrystEngComm* 19 (2017) 6020-6027.

Ardizzoia, G. A.; Bea, M.; **Brenna, S.**; Therrien, B. "A Quantitative Description of the σ -Donor and π -Acceptor Properties of Substituted Phenanthrolines". *European Journal of Inorganic Chemistry* 23 (2016) 3829-3837.

Ardizzoia, G. A.; **Brenna, S.** "Hydroxo-bridged copper(II) cubane complexes". *Coordination Chemistry Reviews* 311 (2016) 53-74.

Ardizzoia, G. A.; **Brenna, S.**; Durini, S.; Therrien, B.; Veronelli, M. "Synthesis, Structure, and Photophysical Properties of Blue-Emitting Zinc(II) Complexes with 3-Aryl-Substituted 1-Pyridylimidazo[1,5-*a*]pyridine Ligands". *European Journal of Inorganic Chemistry* 21 (2014) 3365-3371.

Ardizzoia, G. A.; **Brenna, S.**; Durini, S.; Therrien, B.; Trentin, I. "The Goldilocks principle in action: synthesis and structural characterization of a novel $\{Cu_4(\mu_3-OH)_4\}$ cubane stabilized by monodentate ligands". *Dalton Transactions* 42 (2013) 783-790.

Ardizzoia, G. A.; **Brenna, S.**; Durini, S.; Therrien, B.; "Ruthenium(II) Complexes Bearing a Ligand Derived from P,N- or P,N,O-Diphenylphosphinobenzoxazine: Synthesis, X-ray Characterization, and cis Diastereoselectivity in Styrene Cyclopropanation". *Organometallics* 31 (2012) 5427-5437.

Ardizzoia, G. A.; **Brenna, S.**; Therrien, B.; "Ni(II) and Pd(II) pyridinyloxazolidine-compounds: synthesis, X-ray characterisation and catalytic activities in the aza-Michael reaction". *Dalton Transactions* 41 (2012) 783-790.

Beccalli, E. M.; Borsini, E.; **Brenna, S.**; Galli, S.; Rigamonti, M.; Broggin, G.; " σ -Alkylpalladium Intermediates in Intramolecular Heck reactions: Isolation and Catalytic Activity". *Chemistry: A European Journal* 16 (2010) 1670-1678.

Ardizzoia, G. A.; **Brenna, S.**; Therrien, B.; The Adaptable Coordination Chemistry of 6-Chloro-2-(quinolin-2-yl)-2,4-dihydro-1*H*-benzo[*d*][1,3]oxazine Towards Zinc(II) and Mercury(II). *European Journal of Inorganic Chemistry* 21 (2010) 3365-3371.

Brenna S.; Posset T.; Furrer J.; Bluemel J.; "¹⁴N-NMR and two-dimensional suspension ¹H and ¹³C HRMAS NMR spectroscopy of ionic liquids immobilized on silica". *Chemistry: A European Journal* 12 (2006) 2880-2888.

Ardizzoia, G. A.; **Brenna, S.**; Castelli, F.; Galli, S.; Masciocchi, N.; Maspero, A.; Sironi, A.; "Synthesis and *ab-initio* XRPD structure of Group 12 imidazolato polymers". *Chemical Communications* (2003) 2018-2019.

Ardizzoia, G. A.; **Brenna, S.**; La Monica, G.; Masciocchi, N.; Maspero, A.; Moret, M.; "Oxidative Addition of N-H Bonds to a Metal Center: Synthesis, Characterization, and Crystal Structure of New Rhodium(III) Hydrido-Pyrazolate Complexes". *Inorganic Chemistry* 41 (2002) 610-614.

Masciocchi, N.; Ardizzoia, G. A.; **Brenna, S.**; La Monica, G.; Maspero, A.; Galli, S.; Sironi, A.; "One-dimensional polymers containing strictly collinear metal ions: synthesis and XRPD characterization of homoleptic binary metal pyrazolates". *Inorganic Chemistry* 41 (2002) 6080-6089.

For a full list of publications: www.uninsubria.it/docenti/stefano.brenna

Contributions to Conferences

Ardizzoia G. A., **Brenna S.**, La Monica G., Masciocchi N., Maspero A., "Cyclopropanation reactions catalyzed by new azolate Rh(I) complexes", XXIX Congresso Nazionale della Divisione di Chimica Inorganica della SCI, Giardini Naxos – Taormina, ITALY, 25-29 September 2001.

Cenini S., Penoni A., Ardizzoia G. A., **Brenna S.**, Tollari S., "Cobalt- and copper-catalyzed cyclopropanation reactions", XXIX Congresso Nazionale della Divisione di Chimica Inorganica della SCI, Giardini Naxos – Taormina, ITALY, 25-29 September 2001.

Ardizzoia G. A., **Brenna S.**, Galli S., La Monica G., Masciocchi N., Maspero A., "Oxidative coupling of phenols promoted by copper(I) pyrazolate complexes", XXX Congresso Nazionale di Chimica Inorganica, Modena, ITALY 15-19 September 2002.

Ardizzoia G. A., **Brenna S.**, Castelli F., Galli S., La Monica G., Masciocchi N., Maspero A., Sironi A., "Synthesis and *ab-initio* XRPD structure of Group 12 imidazolato polymers", XXI Congresso della Società Chimica Italiana, Torino, ITALY, 22-27 June 2003.

Brenna S., Castelli F., La Monica G., Maspero A., Drommi D., Faraone F., "Synthesis of new chiral P,N-ligand, (S,S)-(P,N-BINAPZ), and its application in asymmetric catalysis" III EuChemS Conference on "Nitrogen Ligands in Organometallic Chemistry and Homogeneous -Catalysis", Camerino, ITALY, 8-12 September 2004.

Brenna S., Posset T., Furrer J., Blümel J., "Suspension HR-MAS NMR spectroscopy of Ionic Liquids immobilized on silica" 26th Annual Discussion Meeting (NMR), Aachen, GERMANY, 28-30 September 2004.

Brenna S., Posset T., Furrer J., Blümel J., "Suspension HR-MAS and ¹⁴N NMR spectroscopy of neat and immobilized Ionic Liquids for biphasic catalysis", Heidelberg Forum of Molecular Catalysis, Heidelberg, GERMANY, 8 July 2005.

Alberti E., Ardizzoia G. A., **Brenna S.**, Castelli F., Galli S., LaMonica G., Masciocchi N., Maspero A., "Synthesis and reactivity of new dithiophosphonic acids: a combined single-crystal, powder diffraction and solid-state study", XXXV Congresso della Divisione di Chimica Inorganica della SCI, Milano, ITALY, 3-7 September 2007.

Ardizzoia G. A., **Brenna S.**, Castelli F., Galli S., Masciocchi N., Maspero A., "A new stable copper(I)-carbonyl complex: synthesis and X-ray characterization", International School of Organometallic Chemistry (6th edition), Camerino, ITALY, 8-12 September 2007.

Ardizzoia G. A., **Brenna S.**, Therrien B., "The Adaptable Coordination Chemistry of Oxazine and Oxazolidine-type Ligands", First EuChemS Inorganic Chemistry Conference (EICC-1), University of Manchester, UK, 11-14 April 2011.

Ardizzoia G. A., **Brenna S.**, Colombo V., "Ligand-driven nuclearity: the unusual case of luminescent Cu(I) and Ag(I) polynuclear systems with 3,5-dimethyl-4-sulfonate pyrazolates", 6th EuChemS Conference on Nitrogen Ligands, Beaune, France, 13-17 September 2015.

Brenna S., Ardizzoia G. A., Bea M., "σ-Donor and π-Acceptor Properties of Substituted Phenanthroline Ligands in [Mo(CO)₄(phen*)] Complexes: an ETS-NOCV Analysis". XII Congresso del Gruppo Interdivisionale di Chimica Organometallica, Co.G.I.C.O. 2016, Genova, Italy, 5-8 June 2016.

Brenna S., Ardizzoia G. A., Durini S., Romeo A., "Heteroleptic Silver(I) Complexes: Synthesis, Characterization and Luminescent Behavior". XLIV Congresso Nazionale di Chimica Inorganica, Padova, Italy, 14-17 September 2016.

Colombo G., **Brenna S.**, Ardizzoia G. A., "Substituent effect in fluorescent homoleptic zinc(II) complexes with N,O-bidentate imidazo[1,5-a]pyridine ligands". XLVI Congresso Nazionale di Chimica Inorganica, Bologna, Italy, 10-13 September 2018

Invited Lectures

Synthesis, characterization and photophysical properties of d¹⁰-metals luminescent compounds. Institute of Chemistry, University of Neuchâtel, October 2013.

Short CV

Stefano Brenna obtained his Ph.D. degree in Chemical Sciences (2004) at the University of Insubria, under the supervision of Professor G. A. Ardizzioia. He later held a Postdoctoral position in Professor J. Blumel's group at the University of Heidelberg (Germany), with an Alexander von Humboldt Fellowship. He then returned to University of Insubria, where he currently holds a permanent position as University Researcher in Inorganic Chemistry.

His research interests mainly deal with the synthesis of coordination and organometallic compounds, bearing multidentate ligands (with both hard and soft donor atoms), with possible applications in catalysis and materials chemistry (i.e., luminescent compounds). He is coauthor of more than 40 publications (article in peer-reviewed journals and contributions to Conferences) and is serving as Referee for many Journals in the field (Coord. Chem. Rev.; Inorg. Chem.; Organometallics; Eur. J. Inorg. Chem.; Cryst. Growth Des.; J. Mol. Catal. A; J. Lumin.; Inorg. Chim. Acta).

He has been supervisor or co-supervisor of many Master and PhD Thesis. He is member of the Italian Chemical Society (Inorganic Chemistry Division) since 2003, and has been nominated Associate Member of the Royal Society of Chemistry (AMRSC) since June 2015.