PERSONAL INFORMATION

Prof. Salvatore Baldino, PhD

Via Pietro Giuria, 7 C.A.P. 10125 Torino (TO) - Italy
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CURREN POSITION

Associate Professor

Affiliation: *Department of Chemistry, University of Turin*

Via Pietro Giuria, 7 C.A.P. 10125 Turin (TO)

Sex M | Date of birth 02/06/1981 | Nationality Italian

WORK EXPERIENCE

28/12/2018-27/12/2021

Assistant Professor

Department of Chemistry, University of Turin
Via Pietro Giuria, 7 C.A.P. 10125 Turin (TO)

The activities carried out have concerned (under current development):

- extensive feasibility studies on $RuX_2(PP)$, $RuX_2(CO)(PP)$ and $RuX_2(PP)(NN)$ complexes (X= Cl, OAc; PP= diphosphane; NN= diamine) as catalysts in the chemoselective transfer hydrogenation of carbonyl compounds and imines in Deep Eutectic Solvents (DESs) under mild conditions (40-60 °C). The DESs employed act both as reaction media and H_2-source;
- chemoselective isomerization of allylic alcohols to sataurated carbonyl compounds in DESs;
- synthesis and application in C–H activation processes of bifunctional Ru(II)-complexes bearing amino-sulfide ligands;
- highly efficient dehydration processes in acidic DESs.

Sector Academia

01/02/2017-14/12/2018

Research Scientist

Serichim S.r.l.
Piazzale Marinotti, 1 C.A.P. 33050 Torviscosa (UD)
Supervision: Dr. Sabrina De Rosa

The activities carried out have concerned:

- feasibility studies;
- research and development of innovative chemical processes for the synthesis of high-added value molecules and optimization of the aforementioned in pre-industrial scale.

Sector Industry

01/09/2016-28/02/2017 Collaborator

DI4A - Chemistry Division, University of Udine

Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)

The activities carried out as scientist have concerned:

- Ru-carbonyl complexes for asymmetric reductive processes;

Sector Academia

01/08/2016-31/08/2016 Visiting Scientist

Johnson Matthey Catalysts (previously "Johnson Matthey Catalysis and Chiral Technologies")

28 Cambridge Science Park, Milton Rd, Cambridge CB4 0FP, UK

Supervision: Drs. Hans G. Nedden and Antonio Zanotti-Gerosa

The activities carried out as visiting scientist have concerned:

- catalytic tests of RuCl(CNN^{Ph})(PP) complexes in the transfer hydrogenation of several commercial-grade aldehydes and formic acid/triethylamine mixtures, sodium formate and especially ammonium formate;
- brief study on the mechanistic aspects of the reaction by measuring gas evolution, pH and product purity;
- preliminary studies of scale-up conditions.

Sector Industry

01/07/2015-30/06/2016 Postdoctoral researcher

Università degli Studi di Udine

Via Palladio, 8 - 33100 Udine (UD) - Italy

Affiliation: *Department of Chemistry, Physics and Environment - University of Udine*

Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)

Supervision: Prof. Walter Baratta

The activities carried out as a post-doc scientist have concerned:

- the employment of ruthenium complexes of general formula RuCl(CNN^{R})(PP) based on the framework of 4-substituted-2-aminomethylbenzo[*h*]quinoline (PP = diphosphane) in organic transformations of industrial interest (*e.g.* reduction of carbonyl compounds by means of transfer hydrogenation and hydrogenation) in the frame of a collaboration with Johnson Matthey Catalysis & Chiral Technologies (JM CCT, Cambridge);
- particular attention has been given to the catalytic activity of RuCl(CNN^{R})(PP) in the transfer hydrogenation of several commercial-grade aldehydes and ketones, in combination with different hydrogen sources than 2-propanol, such as sodium formate, formic acid/triethylamine = 1/1 mixture, ammonium formate;
- the extension of a new process for the synthesis of very productive ruthenium catalysts to their osmium analogues in the frame of the topics studied within the joint patent with JM CCT;
- synthesis and catalytic applications of new Ru(II)-systems, finalized with the filing of two patents.

Sector Academia

01/07/2014-30/06/2015 Postdoctoral researcher

Università degli Studi di Udine
Via Palladio, 8 - 33100 Udine (UD) - Italy
Affiliation: *Department of Chemistry, Physics and Environment - University of Udine*
Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)
Supervision: Prof. Walter Baratta

The activities carried out as post-doc scientist have concerned:

- broadening the scope of new pincer ruthenium complexes of general formula RuCl(CNN^R)(PP) (see previously reported experience, p. 2), in catalytic transfer hydrogenation in basic 2-propanol and hydrogenation in basic methanol of several commercial-grade aldehydes and finalized with the filing of one patent in the frame of a collaboration with JM CCT;
- the development of new processes for the synthesis of ruthenium catalysts of great importance, finalized with the filing of one joint patent with JM CCT.

Sector Academia

01/07/2013-30/06/2014 Postdoctoral researcher

Università degli Studi di Udine
Via Palladio, 8 - 33100 Udine (UD) - Italy
Affiliation: *Department of Chemistry, Physics and Environment - University of Udine*
Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)
Supervision: Prof. Walter Baratta

The activities carried out as post-doc scientist have concerned:

- NMR-characterization of new pincer ruthenium complexes RuCl(CNN^R)(PP) based on the framework of 4-substituted-2-aminomethylbenzo[*h*]quinoline and especially their employment in organic transformations of industrial interest (*e.g.* reduction of carbonyl compounds by means of transfer hydrogenation and hydrogenation) in the frame of a collaboration with JM CCT, paying particular attention to the chemoselectivity issues involved in the transfer hydrogenation process of commercial-grade aromatic aldehydes in a basic environment;
- the implementation of the project "Aromatic-heterocycle-based ruthenium catalysts for hydrogenation of carbonyl compounds to alcohols and backwards" in the frame of "FVG-R2B-Research for the Competitiveness of Enterprise" promoted and funded by Friuli Innovazione (Centre for Technology Transfer in Friuli Venezia Giulia region);
- preliminary investigation on the stereodifferentiating ability of several Ru(II)-systems (pre-formed and *in situ*) on the transfer hydrogenation of (-)-menthone to (-)-menthol.
- assistance to Bachelor students within their laboratory training period and guidance in the progress of their work.

Sector Academia

01/07/2012-30/06/2013 Postdoctoral researcher

Università degli Studi di Udine
Via Palladio, 8 - 33100 Udine (UD) - Italy
Affiliation: *Department of Chemistry, Physics and Environment - University of Udine*
Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)
Supervision: Prof. Walter Baratta

The activities carried out as post-doc scientist have concerned:

- investigation on the catalytic activity of ruthenium complexes in the reduction of highly sterically hindered ketones, with particular attention to the obtainment of secondary alcohols of great pharmaceutical interest in the frame of a collaboration with Dipharma Francis S.r.l. (*i.e*. chenodeoxycholic and ursodeoxycholic acids);
- synthesis and employment of new cationic Ru(II)-carbonyl complexes of formula [RuX(CO)(diamine)(diphosphane)]Cl with X = H, Cl, which are very active catalysts in the transfer hydrogenation of ketones.

Sector Academia

15/01/2010-14/01/2012

Postdoctoral researcher (Project CRP1_354 "*Sintesi ed applicazione in catalisi asimmetrica di leganti fosfino-piridinici chirali*")

Regione Autonoma della Sardegna (RAS)
Viale Trento, 69 - 09123 Cagliari (CA) - Italy
Affiliation: *Department of Chemistry - University of Sassari*
Via Vienna, 2 C.A.P. 07100 Sassari (SS)

Design and synthesis of:

- new chiral P,N-ligands for asymmetric hydrogenation of non-functionalized alkenes catalyzed by Ir(I)-complexes;
- new chiral N,N-ligands employed in asymmetric nitroaldolic reaction (Henry reaction) catalyzed by Cu(I)- and Cu(II)-salts;
- new chiral S,S,S ed S,N,S compounds of great interest in several areas of Chemistry, based on the pyridine framework and the thiophene ring fused with a terpenic fragment.
- Development of a procedure for hydrodehalogenation of heteroaromatic compounds with one or two heteroatoms;
- assistance to Bachelor and Master Degree students within laboratory practice and guidance in the progress of their work.

Sector Academia

01/02/2009-31/07/2009

Postdoctoral researcher

Università degli Studi di Udine
Via Palladio, 8 - 33100 Udine (UD) - Italy
Affiliation: *Department of Chemical Sciences and Technologies - University of Udine Via del Cotonificio, 108 C.A.P. 33100 Udine (UD)*
Supervision: Prof. Walter Baratta

Training period in the synthesis of Ru(II)-complexes for ketone reduction and development of new ligands for transition-metal-catalyzed dehydrogenation of alcohols.

Sector Academia

EDUCATION AND TRAINING

02/11/2005 - 30/10/2008 PhD in Chemical Sciences

Università degli Studi di Sassari
Affiliation: *Department of Chemistry - University of Sassari*
Via Vienna, 2 C.A.P. 07100 Sassari (SS)

Supervision: Dr. Giorgio Chelucci

The doctoral work has mainly concerned two important areas of Organic Chemistry: synthesis and catalysis. In particular, the aim was to synthesize new pyridine-based ligands and to prove their ability in catalytic asymmetric reactions. Moreover alternative approaches have been explored for the synthesis of molecules of interest in different fields of Chemistry.

Detailed activity:

- the achievement of a new procedure to obtain optically active 1-substituted-1-(pyridin-2-yl)methylamines by diastereoselective reduction of enantiopure ketimines;
- the synthesis of new pincer HCNN ligands based on the benzo[*h*]quinoline framework and catalytic applications of their Ru- and Os-complexes;
- the development of a new procedure for the synthesis of 1,10-phenanthrolines, which are universal ligands for transition metals;
- the investigation of alternative approaches for the obtainment of key-intermediates in the synthesis of the 1,10-phenanthroline core;
- the synthesis of new pyridine-based N-P and N-S ligands derived from optically active camphor and preliminary results on the activity of *(i)* their relative iridium(I)-complexes in the hydrogenation of non-functionalized alkenes; *(ii)* their *in situ* formed palladium(II)-catalysts in the alkylation of (*E*)-1,3-diphenylprop-2-enyl acetate with dimethyl malonate.
- Steorospecific hydrogenolysis of 1-bromoalkenes for the obtainment of geometrically pure (*E*)-alkenes;
- assistance to Bachelor and Master Degree students within laboratory practice and guidance in the progress of their work.

01/10/2000 - 20/07/2005 Laurea Degree (Master)

Università degli Studi di Sassari
Piazza Università, 21 - 07100 Sassari (SS) - Italy

Laurea Degree (Master) top of my class (110/110)

- Organic Chemistry (deep theoretical and practical studies on the synthesis of complex molecules)
- Inorganic Chemistry (coordination chemistry, inorganic and metallorganic synthesis)
- Analytical Chemistry (theoretical and practical - modern techniques)
- Physical Chemistry (classical thermodynamics and quantum chemistry)
- Catalysis (principles of homogeneous asymmetric catalysis)

September 1995 - July 2000 | Secondary School Diploma (84/100)

Liceo Scientifico "G. Spano"
Via Monte Grappa, 2 - 07100 Sassari (SS) - Italy

- Italian Literature and its History
- Latin
- Philosophy
- Mathematics
- Chemistry
- Biology

PERSONAL SKILLS

Mother tongue: Italian

Other language

	FCE Cambridge (2015)				
	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	B2

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Greek (Ελληνικά)	A1	A1	A1	A1	A1
	Self-assessed				

Job-related skills

- Excellent laboratory skills.
- Deep knowledge of organic synthesis and homogeneous catalysis, with particular regard to transition-metal catalyzed processes.
- Advanced knowledge and use of the main scientific databases (Scopus, Web Of Science).
- Good teaching skills.
- Excellent knowledge of spectroscopic techniques, *i.e.* NMR, IR, UV-VIS, analytical and preparative separation techniques, with particular regard to column chromatography, TLC and GC.
- Advanced command in the use of NMR and IR spectrometers, GC-MS and HPLC instruments.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Independent user	Independent user	Independent user

- Good command of Mac OS and Windows operative systems acquired during the years at the university.
- Good command of Microsoft Office® suite (word processor, spread sheet, presentation software) acquired during the years at the university.

Driving licence B

ADDITIONAL INFORMATION

Publications

On peer-reviewed journals:

1) Mannu A., Blangetti M., **Baldino S.**, Prandi C. *Promising Technological and Industrial Applications of Deep Eutectic Systems*. Materials 2021, 14 (10), 2494 (1-26). – Special Issue "Advances and Applications in Deep Eutectic Solvents Technology"

2) **Baldino S.**, Giboulot S., Lovison D., Nedden H. G., Pöthig A., Zanotti-Gerosa A., Zuccaccia D., Ballico M., Baratta W. *Preparation of Neutral trans - cis [Ru(O2CR)2P2(NN)], Cationic [Ru(O2CR)P2(NN)](O2CR) and Pincer [Ru(O2CR)(CNN)P2] (P = PPh3, P2 = diphosphine) Carboxylate Complexes and their Application in the Catalytic Carbonyl Compounds Reduction*. Organometallics 2021, 40 (8), 1086-1103

3) Mannu A., Cardano F., Fin A., **Baldino S.**, Prandi C. *Choline chloride-based ternary deep band gap systems*. Journal of Molecular Liquids 2021, 330, 115717 (1-6)

4) Cavallo M., Arnodo D., Mannu A., Blangetti M., Prandi C., Baratta W., **Baldino S.*** *Deep Eutectic Solvents as H_2-Sources for Ru(II)-Catalyzed Transfer Hydrogenation of Carbonyl Compounds under Mild Conditions*. Tetrahedron 2021 83, 131997 (1-11) – Special Issue "Sustainable Solvents for Organic Chemistry"

5) Nuvoli L., Conte P., Fadda C., Reglero Ruiz J. A., García J. M., **Baldino S.**, Mannu A. *Structural, thermal, and mechanical properties of gelatin-based films integrated with tara gum.* Polymer 2021, 214, 123244 (1-9)

6) Mannu A., Di Pietro M. E., Priola E., **Baldino S.**, Sacchetti A., Mele A. *Unconventional reactivity of epichlorohydrin in the presence of triphenylphosphine: isolation of ((1,4-dioxane-2,5-diyl)-bis-(methylene))-bis-(triphenylphosphonium) chloride*. Research on Chemical Intermediates 2021, 47 (4), 1663-1674

7) Nejrotti S., Mannu A., Blangetti M., **Baldino S.**, Fin A., Prandi C. *Optimization of Nazarov cyclization of 2,4-dimethyl-1,5-diphenylpenta-1,4-dien-3-one in deep eutectic solvents by a design of experiments approach.* Molecules 2020, 25 (23), 5726 (1-14)

8) Mannu A., Karabagias I. K., **Baldino S.**, Prandi C., Karabagias V. K., Badeka A. V. *^{13}C NMR dataset qualitative analysis of Grecian wines*. Data 2020, 5 (3), 78 (1-7)

9) Mannu A., Karabagias I. K., Di Pietro M. E., **Baldino S.**, Karabagias V. K., Badeka V. K. *^{13}C NMR-based chemical fingerprint for the varietal and geographical discrimination of wines*. Foods 2020, 9 (8), 1040 (1-19)

10) Ibanez J., Martín S. M., **Baldino S.**, Prandi C., Mannu A. *European union legislation overview about used vegetable oils recycling: the Spanish and Italian case studies*. Processes 2020, 8 (7), 798 (1-12)

11) Mannu A.,* Grabulosa A., **Baldino S.*** *Transfer hydrogenation from 2-propanol to acetophenone catalyzed by [$RuCl_2((\eta^6$-arene)P] (P = monophosphine) and [$Rh(PP)_2$]X (PP = diphosphine, X = Cl^-, BF_4^-) complexes*. Catalysts 2020, 10 (2), 162 (1-19) – Special Issue "Advance in Catalytic C−H Functionalization for Chemical Synthesis and Other Applications"

12) Gibulot S., **Baldino S.**, Ballico M., Figliolia R., Pöthig A., Zhang S., Zuccaccia D., Baratta W. *Flat and Efficient HCNN and CNN Pincer Ruthenium Catalysts for Carbonyl Compound Reduction*. Organometallics 2019, 38 (5), 1127-1142

13) Gibulot S., Comuzzi C., Del Zotto A., Figliolia R., Lippe G., Lovison D., Strazzolini P., Susmel S., Zangrando E., Zuccaccia D., **Baldino S.**, Ballico M., Baratta W. *Preparation of monocarbonyl ruthenium complexes bearing bidentate nitrogen and phosphine ligands and their catalytic activity in carbonyl compound reduction*. Dalton Transactions 2019, 48 (33), 12560-12576

14) Giboulot S., **Baldino S.**, Ballico M., Nedden H. G., Zuccaccia D., Baratta W. *Cyclometallated Dicarbonyl Ruthenium Catalysts for Transfer Hydrogenation and Hydrogenation of Carbonyl Compounds*. Organometallics 2018, 37 (13), 2136-2146

15) Barbato C., **Baldino S.**, Ballico M., Figliolia R., Magnolia S., Siega K., Herdtweck E., Strazzolini P., Chelucci G., Baratta W. *OsXCl(phosphine)$_2$(diamine) and OsXCl(diphosphine)(diamine) (X = Cl, H) Complexes for Ketone Hydrogenation*. Organometallics 2018, 37 (1), 65-77

16) Figliolia R., **Baldino S.**, Nedden H. G., Zanotti-Gerosa A., Baratta W. *Mild N-Alkylation of Amines with Alcohols Catalyzed by the Acetate Ru(OAc)$_2$(CO)(DiPPF) Complex*. Chemistry - A European Journal 2017, 23 (58), 14416-14419

17) **Baldino S.**, Facchetti S., Nedden H. G., Zanotti-Gerosa A., Baratta W. *Chemoselective Transfer Hydrogenation of Aldehydes with $HCOONH_4$ Catalyzed by RuCl(CNN^{Ph})(PP) Pincer Complexes*. ChemCatChem 2016, 8 (20), 3195-3198

18) **Baldino S.**, Facchetti S., Zanotti-Gerosa A., Nedden H. G., Baratta W. *Transfer Hydrogenation and Hydrogenation of Commercial-Grade Aldehydes to Primary Alcohols Catalyzed by 2-(Aminomethyl)pyridine and Pincer Benzo[h]quinoline Ruthenium Complexes*. ChemCatChem 2016, 8 (13), 2279-2288

19) Facchetti S., Jurcik V., **Baldino S.**, Giboulot S., Nedden H. G., Zanotti-Gerosa A., Blackaby A., Bryan R., Boogaard A., McLaren D.B., Moya E., Reynolds S., Sandham K. S., Martinuzzi P., Baratta W. *Preparation of Pincer 4-Functionalized 2-Aminomethylbenzo[h]quinoline Ruthenium Catalysts for Ketone Reduction*. Organometallics 2016, 35 (2), 277-287

20) Solinas M., Sechi B., **Baldino S.**, Baratta W., Chelucci G. *Hydrogenation of Imines Catalyzed by 2-(Aminomethyl)pyridine-Based Ruthenium and Osmium Complexes*. ChemistrySelect 2016, 1 (10), 2492-2497

21) Volpe A., **Baldino S.**, Tubaro C., Baratta W., Basato M., Graiff C. *Dinuclear Di(N-heterocyclic carbene) iridium(III) complexes as catalysts in transfer hydrogenation*. European Journal of Inorganic Chemistry 2016, 247-251

22) Chelucci G., **Baldino S.**, Baratta W. *Ruthenium and osmium complexes containing 2-(aminomethyl)pyridine (Ampy)-based ligands in catalysis*. Coordination Chemistry Reviews 2015, 300, 29-85

23) Chelucci G., **Baldino S.**, Baratta W. *Recent advances in osmium-catalyzed hydrogenation and dehydrogenation reactions*. Accounts of Chemical Research 2015, 48 (2), 363-379

24) Baratta W., **Baldino S.**, Calhorda M. J., Costa P. J., Esposito G., Herdtweck E., Magnolia S., Mealli C., Messaoudi A., Mason S. A., Veiros L.F. *CNN pincer ruthenium catalysts for hydrogenation and transfer hydrogenation of ketones: Experimental and computational studies*. Chemistry - A European Journal 2014, 20 (42), 13603-13617 – *VIP article*

25) Solinas M., Sechi B., Chelucci G., **Baldino S.**, Pedro J. R., Blay G. *Synthesis and application of new iminopyridine ligands in the enantioselective palladium-catalyzed allylic alkylation*. Journal of Molecular Catalysis A: Chemical 2014, 385, 73-77

26) Zhang S., **Baldino S.**, Baratta W. *Synthesis of [RuX(CO)(dppp)(NN)]Cl (X = H, Cl; NN = en, ampy) complexes and their use as catalysts for transfer hydrogenation*. Organometallics 2013, 32 (19), 5299-5304

27) Solinas M., Sechi B., **Baldino S.**, Chelucci G. *Synthesis and application of new iminopyridine ligands to enantioselective copper(II)-catalyzed Henry reaction*. Journal of Molecular Catalysis A: Chemical 2013, 378, 206-212

28) Chelucci G., **Baldino S.**, Pinna G. A., Pinna G. *Synthetic methods for the hydrodehalogenation of halogenated heterocycles*. Current Organic Chemistry 2012, 16 (24), 2921-2945

29) Chelucci G., **Baldino S.**, Ruiu A. *Room-temperature hydrodehalogenation of halogenated heteropentalenes with one or two heteroatoms*. Journal of Organic Chemistry 2012, 77 (21), 9921-9925

30) Pinna G., Pinna G.A., Chelucci G., **Baldino S.** *Tricyclic pyrazoles: An efficient approach to cannabinoid analogues with a tricyclic framework incorporating the pyrrole and pyrazole moieties*. Synthesis (Germany) 2012, 44 (17), 2798-2804

31) **Baldino S.**, Chelucci G., Poddighe R., Sechi B. *Synthesis of thiophene-type S, S-and N, S-ligands derived from (+)-nopinone*. Synthesis 2011, (15), 2441-2444

32) Chelucci G., Capitta F., **Baldino S.** *Synthesis of internal alkynes via one-pot palladium-catalyzed and dehydrobromination reactions of 1,1-dibromo-1-alkenes*. Tetrahedron 2008, 64 (44), 10250-10257

33) Baratta W., Ballico M., **Baldino S.**, Chelucci G., Herdtweck E., Siega K., Magnolia S., Rigo P. *New benzo[h]quinoline-based ligands and their pincer Ru and Os complexes for efficient catalytic transfer hydrogenation of carbonyl compounds*. Chemistry - A European Journal 2008, 14 (30), 9148-9160

34) Chelucci G., **Baldino S.**, Pinna G. A., Benaglia M., Buffa L., Guizzetti S. *Chiral pyridine N-oxides derived from monoterpenes as organocatalysts for stereoselective reactions with allyltrichlorosilane and tetrachlorosilane*. Tetrahedron 2008, 64 (32), 7574-7582

35) Chelucci G., **Baldino S.** *Synthesis of stereodefined 1-aryl(heteroaryl) substituted 1,2-bis(2-bromopyridin-3-yl)ethenes by selective tandem Suzuki-Miyaura cross-coupling reactions*. Tetrahedron Letters 2008, 49 (17), 2738-2742

36) Chelucci G., **Baldino S.**, Pinna G. A., Sechi B. *Alternative approaches to (Z)-1,2-bis(2-bromopyridin-3-yl)ethenes, key intermediates in the synthesis of the 1,10-phenanthroline core*. Tetrahedron Letters 2008, 49 (17), 2839-2843

37) Chelucci G., Capitta F., **Baldino, S.**, Pinna, G. A. *One-pot conversion of 1,1-dibromoalkenes into internal alkynes by sequential Suzuki-Miyaura and dehydrobromination reactions*. Tetrahedron Letters 2007, 48 (37), 6514-6517

38) Chelucci G., Addis D., **Baldino S.** *A new approach to the 1,10-phenanthroline core*. Tetrahedron Letters 2007, 48 (19), 3359-3362

39) Chelucci G., **Baldino S.**, Chessa S., Pinna G. A., Soccolini F. *An easy route to optically active 1-substituted-1-pyridyl-methylamines by diastereoselective reduction of enantiopure N-tert-butanesulfinyl ketimines*. Tetrahedron Asymmetry 2006, 17 (22), 3163-3169

40) Chelucci G., **Baldino S.** *Synthesis of 4-diphenylphosphanylmethyl- and 4-phenylthiomethyl-1,4-methano-11,11-dimethyl-1,2,3,4-tetrahydroacridine: new N-P and N-S camphor-derived chiral ligands for asymmetric catalysis*. Tetrahedron Asymmetry 2006, 17 (10), 1529-1536

41) Chelucci G., **Baldino S.**, Chessa S. *Diastereoselective reduction of enantiopure N-p-toluenesulfinyl ketimines derived from pyridyl ketones*. Tetrahedron 2006, 62 (4), 619-626

42) Chelucci G., **Baldino S.**, Solinas R., Baratta W. *Asymmetric synthesis of 1-substituted-1-(pyridin-2-yl)methylamines by diastereoselective reduction of enantiopure N-p-toluenesulfinyl ketimines*. Tetrahedron Letters 2005, 46 (33), 5555-5558

Patents:

1) Baratta W., Nedden H. G., Facchetti S., Jurcik V., **Baldino S.**, Bryan R., Blackaby A. *Benzo[h]quinoline ligands and complexes thereof* GB 2544573 A. (collaboration UniUd – Johnson Matthey Catalysts)
2) Baratta W., **Baldino S.**, Nedden H. G., A. Zanotti-Gerosa A., S. Giboulot. *Process* GB 2544574 A. (*Joint patent* UniUd – Johnson Matthey Catalysts)
3) Baratta W., Giboulot S., **Baldino S.** *Monocarbonyl Ruthenium and Osmium Catalysts* WO 2017134618 A1.
4) Baratta W., Giboulot S., **Baldino S.**, Zhang S. *Dicarbonyl Ruthenium and Osmium Catalysts* WO 2017134620 A1.

Presentations and posters

1) D. Addis, **S. Baldino**, N. Belmonte, G. Chelucci "SINTESI DI DUE NUOVI LEGANTI CHIRALI DI TIPO N-P e N-S DERIVATI DALLA CANFORA". SardiniaChem2006, Cagliari – IT, dal 05-06-2006 al 05-06-2006.
2) D. Addis, **S. Baldino**, N. Belmonte, G. Chelucci "NUOVA SINTESI DI 1,10-FENANTROLINE". SardiniaChem2006, Cagliari – IT, dal 05-06-2006 al 05-06-2006.
3) G. Chelucci, **S. Baldino**, G. A. Pinna, F. Soccolini "SINTESI STEREOSELETTIVA DI PIRIDILAMMINE". SardiniaChem2006, Cagliari – IT, dal 05-06-2006 al 05-06-2006.
4) **S. Baldino**, G. Chelucci "SYNTHESIS OF STEREODEFINED 1-ARYL(HETEROARYL) SUBSTITUTED 1,2-BIS(2-BROMOPYRIDIN-3-YL)ETHENES BY SELECTIVE TANDEM SUZUKIMIYAURA CROSS-COUPLING REACTIONS". SardiniaChem2008, Sassari – IT, dal 30-05-2008 al 30-05-2008.
5) A. Ruiu, G. Chelucci, **S. Baldino** "Hydrodehalogenation of halogenated heteropentalenes with one heteroatom by sodiumborohydride/*N*,*N*,*N'*,*N'*-tetramethylethylenediamine under palladium catalysis". La Chimica in Sardegna nell'Anno della Chimica, Tramariglio (SS) – IT, 21-10-2011.
6) **S. Baldino**, W. Baratta, S. Giboulot, S. Facchetti, A. Zanotti-Gerosa, H. G. Nedden "Revisiting Ammonium Formate: Chemoselective Transfer Hydrogenation of Aldehydes Catalyzed by Ruthenium Pincer Complexes" ISOC 2015, Camerino – IT, dal 05-09-2015 al 09-09-2015.
7) W. Baratta, **S. Baldino**, S. Giboulot, S. Facchetti, H. G. Nedden, A. Zanotti-Gerosa "Pincer 4-Functionalized 2-Aminomethylbenzo[h]quinoline Ruthenium Catalysts for Aldehyde / Ketone Reduction". INORG 2015, Camerino – IT, dal 09-09-2015 al 12-09-2015.

8) W. Baratta, **S. Baldino**, M. J. Bitzer, F. E. Kühn "Abnormal and Anionic Dicarbene Ruthenium Catalysts for C-H and C-C Forming Reactions" XLIV Congresso Nazionale di Chimica Inorganica, Padova – IT, 14-09-2016 al 17-09-2016.
9) **S. Baldino** "Revisiting ammonium formate: chemoselective transfer hydrogenation of commercial-grade aldehydes catalyzed by ruthenium pincer complexes". I Giovani e la Chimica 2016, Trieste – IT, 29-09-2016.
10) R. Figliolia, **S. Baldino**, H. G. Nedden, A. Zanotti-Gerosa, W. Baratta "Mild N-Alkylation of Amines with Alcohols Catalyzed by Acetate Ruthenium Complexes" ISOC 2017, San Benedetto del Tronto – IT, dal 02-09-2017 al 06-09-2017.
11) R. Figliolia, **S. Baldino**, A. Zanotti-Gerosa, W. Baratta "Reactivity and New Catalytic Application of DiPPFc Ruthenium complexes" ICOMC 2018, Firenze – IT, dal 15-07-2018 al 20-07-2018.
12) M. Cavallo, C. Prandi, R. Figliolia, M. Ballico, W. Baratta, **S. Baldino** *"Unprecedented use of a deep eutectic solvent as hydrogen source for Ru(II)-catalyzed transfer hydrogenation of carbonyl compounds under mild conditions"* ISOC: International School of Organometallic Chemistry. 31 agosto-4 settembre 2019 – Camerino (IT).

Teaching activitiy

Co-holder of laboratory course in Synthetic Organic Chemistry within the Bachelor Degree Course and specialistic teachings within the Master Degree Course, dealing with spectroscopic identification of organic compounds and new trends in synthetic organic chemistry, with a special focus on homogeneous catalytic (de)hydrogenative processes. The time dedicated to classes, excluding preparations and examination hours, has ranged from 90 to 122 h/yr.

Honours and awards

2006: “Enrico Marcialis” prize, received from Rotary Club Cagliari Est and Inner Wheel for his Laurea (Master) thesis work.