

Name

Address

Phone

Email

- Education** **University of Pennsylvania** Philadelphia, PA
Ph.D. Organic Chemistry August 2009.
 Thesis title: "Catalytic Asymmetric Additions of in situ Generated Functionalized Zinc Reagents to Aldehydes".
- Università degli Studi Firenze** Firenze, Italy
"Laurea" (BS equivalent) in Organic Chemistry, (5 year degree) December 2001
 One year research experience culminated in thesis defense on "Mononuclear ruthenium carbonyl hydrides containing two different phosphines: synthesis, reactivity and catalytic activity".
- Awards** Presented selective Commendation (given to top 5% of TA) for teaching assistantship in undergraduate general chemistry lab course (2005).
 University of Florence Undergraduate Academic Scholarship - Merit Award given to students of good academic standing (1998 – 1999 / 1999 – 2000 / 2000 – 2001).
- Research Interests** My interest lies in the field of organometallic chemistry with particular attention to develop new catalytic methods for the synthesis of valuable products.
- Research Experience** **Massachusetts Institute of Technology** Cambridge, MA
 Adviser: Dr. Stephen Buchwald
 Conducting investigation in the cross-coupling reactions mediated by Palladium. The targeted products are very important synthons in pharmacological research (September 2009 – current).
- University of Pennsylvania** Philadelphia, PA
 Adviser: Dr. Patrick Walsh
 Conducted detailed investigation of reaction mechanisms leading to the synthesis and optimization of ligands for the enantioselective formation of C-C and C-O bonds producing secondary alcohols. In particular it was applied to the catalytic, enantioselective addition of Z-vinylzinc and heteroarylzinc reagent to aldehydes.
 The common thread in the aforementioned reactions is the possibility of controlling detrimental by-product activity caused by LiCl, employing TEEDA as a selective inhibitor *in situ*.
 Obtained suitable crystals for X-ray analysis to characterize important intermediates in reaction mechanisms and to assess the absolute configuration of optically active products.
 Prepared and edited manuscripts for journal publications and contributed to grant applications; trained and guided incoming students both in transmitting the laboratory skills and in devising new projects (July 2004 – August 2009).
- Arkema Inc.** King of Prussia PA
 Adviser: Dr. Michael B. Abrams
 Synthesized polymers for the discovery and commercialization of paint additives used to protect industrial sized ships from undesirable barnacle attachment. Outcome of marine anti-fouling work resulted in patent submission (status pending).
 Routinely designed experiments using hypothesis based research and employing diverse quantitative techniques, such as GPC and GC/MS to assemble and evaluate performance data (February 2002 – January 2003).
- Università degli Studi Firenze** Firenze, Italy
 Adviser: Dr. Antonella Salvini
 Synthesized air sensitive organometallic Ruthenium catalysts to study selective hydrogenation reactions of carbonyl in presence of olefinic double bounds (December 2001).
- Teaching Experience** **University of Pennsylvania** Philadelphia, PA
 General Chemistry Laboratory
 Taught General Chemistry Lab, assisting the students in approaching for the first time chemistry. Helped with the exams and emphasized the importance of keeping good scientific records (September 2004 – May 2005).
- Università degli Studi Firenze** Firenze, Italy

Safety in Chemistry

Created an e-learning course about industrial and chemical safety through school laboratories till industrial activity (February 2003 – August 2004).

Work Experience	Topfinish 2002, Srl. Laboratory Director Managed development of new laboratory started in order to achieve further in house productivity and cost efficiency. Designed laboratory to allow for assessment of optimum ratio of precious metals needed for use in the coating of accessories (belts, buttons, zips) for high end Italian fashion labels.	Scarperia, Italy Mar – Jun 2004
	Punto Ecologia, Srl. Technical Representative Managed relationship with customers for the disposal of chemically contaminated waste. On-site inspection and implementation of the safety requirements for several factories, ranging from small size, to medium/big.	Pisa, Italy Jan – Mar 2004

PUBLICATIONS

- Kim, H. Y.; **Name**; Carroll, P. J.; Walsh, P. J. One-Pot Catalytic Enantio- and Diastereoselective Syntheses of anti-, syn-cis-Disubstituted, and syn-Vinyl Cyclopropyl Alcohols **DOI:** 10.1021/ja907781t *J. Am. Chem. Soc.*
- **Name**; Kim, J. G., Walsh, P. J. Practical Catalytic Asymmetric Synthesis of Diaryl-, Aryl Heteroaryl-, and Diheteroarylmethanols *J. Am. Chem. Soc.* **2009**, *131*, 12483-12493
- **Name**; Walsh, P. J. Scalable catalytic asymmetric generation of (*Z*)-disubstituted allylic alcohols via *in situ* generation of functionalized zinc reagents *Manuscript in preparation for submission to Org. Synth.*
- Kerrigan, M. H.; Jeon, S.-J.; Chen, Y.; **Name**; Walsh, P. J. One-Pot Multicomponent Coupling Methods for the Synthesis of Diastereo- and Enantioenriched (*Z*)-Trisubstituted Allylic Alcohols *J. Am. Chem. Soc.* **2009**, *131*, 8434-8445.
- Kim, H. Y.; **Name**; Carroll, P. J.; Walsh, P. J. Highly Enantio- and Diastereoselective One-pot Methods for the Synthesis of Halocyclopropyl Alcohols *J. Am. Chem. Soc.* **2009**, *131*, 954-962.
- **Name**; Jeon, S.-J.; Fisher, E. L.; Carroll, P. J.; Walsh, P. J. Catalytic asymmetric generation of (*Z*)-disubstituted allylic alcohols *J. Am. Chem. Soc.* **2007**, *129*, 16119-16125.
- Wooten, A. J.; **Name**; Carroll, P. J.; Walsh, P. J. Characterization of dimeric and tetrameric μ -hydroxide ytterbium(III) binaphtholate complexes *Adv. Synth. Catal.* **2007**, *349*, 561-565.
- **Name**; Salvini, A.; Micoli, F.; Bianchini, C.; Oberhauser, W. Mononuclear ruthenium complexes containing two different phosphines in trans position: II. Catalytic hydrogenation of CC and CO bonds *J. Organomet. Chem.* **2007**, *692*, 1442-1450.
- Micoli, F.; **Name**; Salvini, A.; Frediani, P.; Giannelli, C. Mononuclear ruthenium complexes containing two different phosphines in trans position: I. Synthesis and spectroscopic characterization *J. Organomet. Chem.* **2005**, *690*, 4867-4877.

PRESENTATIONS

- **Name**; Walsh, P. J. Asymmetric synthesis of diarylmethanol *Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, United States, August 17-21, 2008*,
- **Name**; Jeon, S.-J.; Fisher, E. L.; Carroll, P. J.; Walsh, P. J. Asymmetric synthesis of (*Z*)-disubstituted allylic alcohols *Abstracts of Papers, 234th ACS National Meeting, Boston, MA, United States, August 19-23, 2007*, ORGN-469.
- **Name**; Jeon, S.-J.; Fisher, E. L.; Carroll, P. J.; Walsh, P. J. Direct, Enantioselective Generation of (*Z*)-Disubstituted Allylic Alcohol *Abstracts, 39th Middle Atlantic Regional Meeting of the American Chemical Society, Collegeville, PA, United States, May 16-18 2007*, MARM-409.

PROFESSIONAL AFFILIATIONS

- American Chemical Society since 2004