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EDUCATION

September 1990 - July 1993	PhD University Paul Sabatier, Toulouse, France
June 1990	Master " Chimie Moléculaire et Supramoléculaire" University Paul Sabatier, Toulouse, France

RESEARCH ACTIVITIES

July 2012 – present	Research Associate UCSD-CNRS joint Research Chemistry Laboratory, University of California San Diego, CA, USA
July 2001 – July 2012	Research Associate UCR-CNRS Joint Research Chemistry Laboratory, University of California Riverside, CA, USA
January 2000 - June 2001	Research Associate CNRS (CR1) Laboratoire de Chimie de Coordination, Toulouse, France
January 1999 - December 1999	Research Associate Company SANOFI-SYNTHELABO, Toulouse, France
July 1996 - August 1996	NATO grant. Stanford University, CA, USA. Prof. J-P Collman.
October 1995 - December 1998	Research Associate CNRS (CR2) Université Paris VI
September 1993- September 1995	Post-doctoral position. BASF. AG. Ludwigshafen, Germany

PUBLICATIONS

1- Photochemical Behavior of Thioxophosphoranyl Diazo Compounds: Evidence for Transient λ^5-Phosphathiirenes and for Structural Isomerizations of the Diazo Group
M. Soleilhavoup, A. Baceiredo, F. Dahan and G. Bertrand
Inorg. Chem. **1992**, *31*, 1500

2- Synthesis and X-ray Crystal Structure of $[(i\text{-}Pr_2N)_2P(H)CP(N i\text{-}Pr_2)_2]^+CF_3SO_3^-$: A Carbene, a Cumulene or a Phosphaacetylene ?
M. Soleilhavoup, A. Baceiredo, O. Treutler, R. Ahlrichs, M. Nieger and G. Bertrand
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3- Phosphanylcarbenes: From Unstable Intermediates to X-ray Characterized Compounds
M. Soleilhavoup, G. Alcaraz, R. Réau, A. Baceiredo and G. Bertrand
Phosphorus, Sulfur and Silicon. **1993**, *76*, 49

4- The phosphonioyl(phosphoranediyl)carbene $[(i\text{-}Pr_2N)_2P(H)CP(Ni\text{-}Pr_2)_2]^+$ as a Source of New 1,3-Diphosphaallene Ylides : The First Carbodiphosphorane with P-H Bonds
M. Soleilhavoup, A. Baceiredo and G. Bertrand
Angew. Chem. Int. Ed. Engl. **1993**, *32*, 1167

5- Structure and Bonding in Diphosphanylcarbene. An *ab initio* investigation
O. Treutler, R. Ahlrichs and M. Soleilhavoup
J. Am. Chem. Soc. **1993**, *115,* 8788

6- Nucleophilic Additions to a Diphosphirenium Salt: Ring Opening and Ring Expansion Reactions
M. Soleilhavoup, A. Baceiredo, F. Dahan and G. Bertrand
J. Chem. Soc. Chem. Commun. **1994**, 337

7- Synthesis and Rearrangement of Intramolecularly Stabilized $1\sigma^2$, $3\sigma^2$-Diphosphaallylic Cations into Intramolecularly Stabilized $1\sigma^1$, $3\sigma^3$-Diphosphaallylic Cations
M. Soleilhavoup, Y. Canac, A.M. Polozov, A. Baceiredo and G. Bertrand
J. Am. Chem. Soc. **1994**, *116*, 6149

8- Addition of a Diphosphirenium Salt to Palladium (0) Complexes: The first Examples of Diphosphametallacyclobutenes
Y. Canac, M. Soleilhavoup, L. Ricard, A. Baceiredo and G. Bertrand
Organometallics. **1995**, *14*, 3614

9- Synthesis of Biomimetic Heme Precursors: The « Double Picket Fence » 5,10,15,20-Tetrakis (2',6'-dinitro-4'-*tert*- butylphenyl)porphyrin
E. Rose, A. Kossanyi, M. Quelquejeu, M. Soleilhavoup, F. Duwavran, N. Bernard and A. Lecas
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10- Evidence for a Transient Acylphosphenium Ion
M. Soleilhavoup, O. Guerret, J-L. Faure, A. Baceiredo and G. Bertrand
Phosphorus, Sulfur and Silicon. **1997**, *123*, 161

11- Bis-Faced Aminoporphyrin Templates for the Synthesis of Chiral Catalysts and Hemeprotein Analogues
E. Rose, M. Soleilhavoup, G. Moreau, L. Christ-Tomasino, M. Quelquejeu, J.P. Collman and A. Straumanis
J. Org. Chem. **1998**, *63*, 2042

12- On ring carbomers of cyclobutane, cuclopentane and cyclodecane, and cyclizing bis(alkynylpropargyl) coupling
L. Maurette, C. Godard, S. Frau, C. Lepetit, M. Soleilhavoup, R. Chauvin
Chem. Eur. J. **2001***, 7*, 1165

13- Parallel Approaches to Mono- and Bis- Propargylic Activation via $Co_2(CO)_8$ and $[Ru_3(\mu\text{-}Cl)(CO)_{10}]^-$
M. Soleilhavoup, C. Saccavini, C. Lepetit, G. Lavigne, L. Maurette, B. Donnadieu,and R. Chauvin
Organometallics. **2002**, *21*, 871

14- The η5-(σ-P, Π-arene) chelating H-MOP ligand in an optically and catalytically active rhodium(I) complex
M. Soleilhavoup, L. Viau, G. Commenge, C. Lepetit, R. Chauvin
Eur. J. Inorg. Chem. **2003**, 207

15- 1.4-Diynes from alkynyl-propargyl coupling reactions
C. Tedeschi, C. Saccavini. L. Maurette, M. Soleilhavoup, R. Chauvin
J. Organomet. Chem. **2003**, *670*, 151

16- Regio- and stereo-selective double addition of anionic C-nucleophiles to cobalt-stabilized acetylenedicarbaldehyde
C. Sui-Seng, M. Soleilhavoup, L. Maurette, C. Tedeschi, B. Donnadieu, R. Chauvin
Eur. J. Org. Chem. **2003**, *9*, 1641

17- Versatile bis-propargylic reactivity of acetylenedicarbonyl-cobalt complexes with neutral nucleophiles: Direct synthesis of a furyl-α-pyrone
M. Soleilhavoup, L. Maurette, C. Lamirand, B. Donnadieu, M. J. McGlinchey, R. Chauvin.
Eur. J. Org. Chem. **2003**, *9*, 1652

18- Synthesis, conformational analysis and catalytic properties of a chiral P,C-chelated Rhodium(I) complex with a binapium ylide ligand
C. Canal, C. Lepetit, M. Soleilhavoup, R. Chauvin
Afinidad. **2004**, *61*, 298

19- Synthesis and stereochemical resolution of functional [5]pericyclines
L. Maurette, C. Tedeschi, E. Sermot, M. Soleilhavoup, F. Hussain, B. Donnadieu, R. Chauvin
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20- Stable Non-N-Heterocyclic Carbenes (Non-NHC): Recent Progress
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21- Synthesis of Transient and Stable C-Amino Phosphorus Ylides and their fragmentation into Transient and Stable Carbenes
Y. Canac, S. Conejero, M. Soleilhavoup, B. Donnadieu, G. Bertrand
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22- Cyclic C-Amino Phosphorus Ylides as a Source of Bidentate Heteroditopic Ligands (Phosphine/Aminocarbenes) for Transition Metals
J. Vignolle, B. Donnadieu, D. Bourissou, M. Soleilhavoup, G. Bertrand
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23- New Synthetic routes to C-amino Phosphorus ylides and their subsequent fragmentation into carbenes and phosphines
S. Conejero, M. Song, D. Martin, Y. Canac, M. Soleilhavoup, G. Bertrand
Chem. Asian J. **2006**, *1*, 155

24- Functional [6]pericyclynes : synthesis through [14 + 4] and [8 + 10] cyclization strategies. Part 1
C. Saccavini, C. Tedeschi, L. Maurette, C. Sui-Seng, C. Zou, M. Soleilhavoup, L. Vendier, R. Chauvin
Chem. Eur. J. **2007**, *13*, 4895

25- Synthesis of phosphaformamidines and phosphaformamidinates
M. Song, B. Donnadieu, M. Soleilhavoup, G. Bertrand
Chem. Asian J. **2007**, *2*, 904

26- Let's play with valence isomers: the influence of different main group elements on their relative stability
M. Soleilhavoup, G. Bertrand
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27- Cyclic (Amino)[bis(ylide)] carbene as an Anionic Bidentate Ligand for Transition-Metal Complexes
M. Asay, B. Donnadieu, A. Baceiredo, M. Soleilhavoup, G. Bertrand
Inorg. Chem. **2008**, *47*, 3949

28- Homogeneous catalytic hydroamination of alkynes and allenes with ammonia
V. Lavallo, G. D. Frey, B. Donnadieu, M. Soleilhavoup, G. Bertrand
Angew. Chem. Int. Ed. **2008**, *47*, 5224

29- A persistent P, N-heterocyclic carbene
G. D. Frey, M. Song, J-B. Bourg, B. Donnadieu, M. Soleilhavoup, G. Bertrand
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30- Gold-Catalyzed Intermolecular Markovniv hydroamination of Allenes with Saecondary Amines
X. Zeng, M. Soleilhavoup, G. Bertrand
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31- Reactivity of Cyclic (Alkyl)(amino)carbenes (CAACs) and Bis(amino)cyclopropenylidenes (BACs) with Heteroallenes: Comparisons with their N-Heterocyclic Carbene (NHCs) Counterparts
Kuchenbeiser, G; Soleilhavoup, M; Donnadieu, B; Bertrand, G
Chem. Asian. J. **2009**, *4*, 1745

32- Stable Cyclic Carbenes and Related Species beyond Diaminocarbenes
Melaimi, M; Soleilhavoup, M; Bertrand, G
Angew. Chem. Int. Ed. **2010**, *49*, 8810

33- Synthesis of a Room-Temperature-Stable Dimeric Copper(I) Hydride
Frey, GD; Donnadieu, B; Soleilhavoup, M, Bertrand, G
Chem. Asian. J. **2011**, *6*, 402

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Martin, D; Soleilhavoup, M; Bertrand, G
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35- A Brief Survey of Our Contribution to Stable Carbene Chemistry
Martin, D; Melaimi, M; Soleilhavoup, M; Bertrand, G
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36- Gold(III)- versus Gold(I)-Induced Cyclization: Synthesis of Six-Membered Mesoionic Carbene and Acyclic (Aryl)(Heteroaryl) Carbene Complexes
G. Ung, M. Soleilhavoup, G. Bertrand
Angew. Chem. Int. Ed. **2013**, *52*, 758

37- Carbene-stabilized main group radicals and radical ions
C. D. Martin, M. Soleilhavoup, G. Bertrand
Chem. Sci. **2013**, *4*, 3020

38- Stable Carbenes: From Laboratory Curiosities to Powerful Tools
M. Soleilhavoup, M. Melaimi, D. Martin, G. Bertrand.
Actual Chim. **2013**, *370*, 20.

39- Gold Catalyzed Hydroamination of Alkynes and Allenes
G. Bertrand, V. Lavallo, G.D. Frey, B. Donnadieu, M. Soleilhavoup
US Patent 8, 580, 990

40- Two-Coordinate Fe-0 and Co-0 Complexes Supported by Cyclic (alkyl)(amino) carbenes
G. Ung, J. Rittle, M. Soleilhavoup, G. Bertrand, J. C. Peters
Angew. Chem. Int. Ed. **2014**, *53*, 8427

41- Cyclic (Alkyl)(Amino)Carbenes (CAACs): Stable Carbenes on the Rise
M. Soleilhavoup, G. Bertrand
Accounts. Chem. Res. **2015**, *48*, 256

42- Air-Stable (CAAC) CuCl and (CAAC)$CuBH_4$ Complexes as Catalysts for the Hydrolytic Dehydrogenation of BH_3NH_3
X. B. Hu, M. Soleilhavoup, M. Melaimi, J. X. Chu, G. Bertrand
Angew. Chem. Int. Ed. **2015**, *54*, 6008

43- Spectroscopic Evidence for a Monomeric Copper(I) Hydride and Crystallographic Characterization of a Monomeric Silver(I) Hydride
E. Romero, P. M. Olsen, R. Jazzar, M. Soleilhavoup, M. Gembicky, G. Bertrand
Angew. Chem. Int. Ed. **2017**, *56*, 4024
Highlights: ChemistryViews (Monomeric Silver and Copper Hydrides)

44- Cyclic (Alkyl)(amino)carbenes (CAACs): Recent Developments
M. Melaimi, R. Jazzar, M. Soleilhavoup, G. Bertrand
Angew. Chem. Int. Ed. **2017**, *56*, 10056

45- Phosphorescent 2-, 3-and 4-coordinate cyclic (alkyl)(amino) carbene (CAAC) Cu(I) complexes
R. Hamze, R. Jazzar, M. Soleilhavoup, P. I. Djurovich, G. Bertrand, M. E. Thompson
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46- Borylenes: An Emerging Class of Compounds
M. Soleilhavoup, G. Bertrand
Angew. Chem. Int. Ed. **2017**, *56*, 10282

47- 1H-1,2,3-Triazol-5-ylidenes: Readily Available Mesoionic Carbenes
G. Guisado-Barrios, M. Soleilhavoup, G. Bertrand
Accounts. Chem. Res. **2018**, *51*, 3236

48- Eliminating nonradiative decay in Cu(I) emitters: > 99% quantum efficiency and microsecond lifetime
R. Hamze, J. L. Peltier, D. Sylvinson, M. Jung, J. Cardenas, R. Haiges, M. Soleilhavoup, R. Jazzar, P. I. Djurovich, G. Bertrand, M. E. Thompson
Science, **2018**, 363, 601

49- The debut of chiral cyclic (alkyl)(amino)carbenes (CAACs) in enantioselective catalysis
D. Pichon, M. Soleilhavoup, J. Morvan, G. P. Junor, T. Vives, C. Crevisy, V. Lavallo, J-M. Campagne, M. Mauduit, R. Jazzar, G. Bertrand
Chem. Sci. **2019**, *10*, 7807
Highlights:
ChemistryViews (First Chiral CAACs in Asymmetric Catalysis)
Institut de Chimie CNRS (Les débuts des alkylaminocarbenes cycliques (CAACs) chiraux en catalyse asymétrique)

50- Stable Abnormal N-Heterocyclic Carbenes and their Applications in Catalysis
S. C. Sau, P. K. Hota, S. K. Mandal, M. Soleilhavoup, G. Bertrand
Chem. Soc. Rev. **2020**, *49*, 1233

51- Cyclic (Alkyl)- and (Aryl)-(amino)carbene Coinage Metal Complexes and Their Applications
R. Jazzar, M. Soleilhavoup, G. Bertrand
Chem. Rev. **2020**, *120*, 4141

52- Stable Carbenes, Nitrenes, Phosphinidenes, and Borylenes: Past and Future
M. Soleilhavoup, G. Bertrand
Chem **2020**, *6*, 1275

53- Absolute Templating of M(111) Cluster Surrogates by Galvanic Exchange
J. Peltier, M. Soleilhavoup, D. Martin, R. Jazzar, G. Bertrand
J. Am. Chem. Soc, **2020**, *142*, 16479

54- Cyclic (Alkyl)(amino)carbenes: Synthesis of Iminium Precursors and Structural Properties

François Vermersch, Luana Oliveira, Joseph Hunter, Michele Soleilhavoup, Rodolphe Jazzar, and Guy Bertrand
J. Org. Chem. **2022**, *87*, 3511

55- "Quick-Silver" from a Systematic Study of Highly Luminescent, Two-Coordinate, d^{10} Coinage Metal Complexes
Hamze, R., Shi, S., Kapper, S. C., Sylvinson, D., Ravinson, M., Estergreen, L., Jung, M.C., Tadle, A. C., Haiges, R., Djurovich, P. I., Peltier, J. L., Jazzar, R., Bertrand, G., Bradforth, S. E., Thompson, M. E.
Electrophosphorescent Materials and Devices, **2023,** Taylor & Francis Group.

56- Eliminating Nonradiative Decay in Cu(I) Emitters: > 99% Quantum Efficiency and Microsecond Lifetime
Hamze, R., Peltier, J. L., Sylvinson, D., Jung, M., Cardenas, J., Haiges, R., Soleilhavoup, M., Jazzar, R., Djurovich, P. I., Bertrand, G., Thompson, M. E.
Electrophosphorescent Materials and Devices, **2023**, Taylor & Francis Group.

57- 1H-1,2,3-Triazol-5-ylidenes as Catalytic Organic Single-Electron Reductants
Mehdi Abdellaoui, Kai Oppel, Adam Vianna, Michele Soleilhavoup, Xiaoyou Yan, Mohand Melaimi, Guy Bertrand.
J. Am. Chem. Soc, **2024**, *146,* 2933

58- Singly and doubly oxidized carbenes and their applications in catalysis
Alexis Day, Mehdi Abdellaoui, Michele Soleilhavoup, Guy Bertrand.
Chem. Catal., **2025**, *5*, 101159

COLLABORATIONS

2016- 2019: Prof. Thompson, M.E. Univ Southern Calif, Dept Chem, Los Angeles, CA 90089 USA. "Organic LED".
2017- 2018: Prof. Hu, X. Nanjing University, China. "Epoxidation of Olefins using Recyclables Carbenes based Copper catalysts".
2017- 2022: Dr Guisado-Barrios, G. INAM. Universitat Jaume I of Castell., Spain.
"Pincer Compounds Based on Mesoionic Carbene: Chemistry and Applications".
2017- 2022: Prof. Apeloig, Y. Technion-Israel Institute of Technology, Haifa, Israel.
"Study of Paramagnetic Monomeric Carbene Complexes Au (II), Ag (II) and Cu (II) by Ab initio quantum chemistry and EPR".
2016- 2022: Prof. Bezuidenhout, D. Oulu University, Finland.
"Synthesis of Pincer Types Carbenic Complexes".

CONFERENCES

April1991: Société Française de Chimie. Toulouse. Communication
May 1992: SECO XXIX. Cologne sur Gers. Communication
July 1992: 12th International Conference on Phosphorus Chemistry. Toulouse. Poster
November 1992: Société Française de Chimie. Montpellier. Poster
December 1995: Journées de la Division de Chimie de Coordination de la SFC. Versailles. Communication
September 1996: École d'été du CNRS « Chimie de Coordination, aux frontières de la Réactivité, des Matériaux et de la Biologie » Gujan-Mestras. Poster
August1997: GECO XXXVIII. Mittelwihr, Haut Rhin. Communication
December 1997: Société Française de Chimie. Communication
April 1999: 2eme Symposium Français « Chimie Combinatoire et Synthèse sur Support Solide » Rennes.
March 2000: Laboratoire de Chimie de Coordination du CNRS. Toulouse. Communication
RCOM (1^{eres} Rencontres de Chimie Organique de Marseille) Marseille. Poster
September 2000: Séminaire Fusion Sanofi-Synthélabo. Strasbourg. Poster
January 2001: Journées Scientifiques du Laboratoire de Chimie de Coordination. Toulouse. Communication

December 2001: Inorganic Chemistry Seminar. University of California Riverside. Riverside, California, USA. Communication
March 2004: 227th National Meeting of the American-Chemical Society. Anaheim, CA, USA. Poster
August 2007: International Conference on Heteroatom Chemistry (ICHAC-8). Riverside, CA, USA. Poster
April 2008: 235th American-Chemical-Society. New Orleans, LA, USA. Communication
February 2008: Zing Conference Heavier Heterocyclic and Heteroatom. Cancun, Mexico. Poster
February 2009: Zing Conference Carbene Chemistry. Playa Del Carmen, Mexico. Poster
August 2017: 254th National Meeting and Exposition of the American-Chemical-Society (ACS) on Chemistry's Impact on the Global Economy. Washington, DC, USA. Communication
August 2018: 256th National Meeting and Exposition of the American-Chemical-Society (ACS) - Nanoscience, Nanotechnology and Beyond. Boston, MA, USA. Communication
August 2019: XXXth National Meeting and Exposition of the American-Chemical-Society (ACS) – Chemistry & Water. San Diego, CA, USA. Invited to "Chemical Reviews Editorial Advisory Board Meeting"

SCIENTIFIC IMPACT

h-index: 37
Publications/patents/Book chapters: 58
Citations: 9555

EDITORIAL ACTIVITIES

July 2010-December 2021: Journal Office Administrator for Chemical Reviews. ACS Publications

LABORATORY ACTIVITIES

Safety Coordinator for UCSD and Prevention Assistant for the CNRS
Financial and administrative management for the laboratory