PROFESSIONAL DOSSIER

Guy BERTRAND

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Guy BERTRAND

Professional Address

UCSD/CNRS Joint Research Chemistry Laboratory (UMI 3555)
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Education

D.U.E.S. PC (Université de Limoges), *June 1972*
Ingénieur ENSC Montpellier, *June 1975*
Docteur ès-Sciences Physiques (Université Paul Sabatier, Toulouse), *September 1979*

Research Activities

Attaché de Recherche CNRS	(Université Paul Sabatier) *Oct. 1975 - Oct. 1980*
Research Associate	Sanofi-Recherche Company *Oct. 1980 - Sept.1981*
Chargé de Recherche CNRS	(Université Paul Sabatier) *Nov. 1981 - Feb. 1988*
Directeur de Recherche CNRS, 2ème classe	(LCC-CNRS, Toulouse), *Mar. 1988 - Sept. 1994*
Directeur de recherche CNRS, 1ère classe	(LCC-CNRS) *Oct. 1994 - Dec. 1998*
	(Université Paul Sabatier) *Jan. 1999- Sept. 2001*
Directeur de Recherche CNRS, Classe Exceptionnelle	(Université Paul Sabatier) *Oct. - 2001-present*
Distinguished Professor	(University of California, Riverside) *Oct. 2001-June 2012*
Distinguished Professor	(University of California, San Diego) *July 2012-present*

Administrative Responsabilities

Member of the Board of Directors of the International Council on Main Group Element, *1993-1999*
Elected Member of the Administrative Board of « Institut de Promotion Supérieure du Travail», *1993-2000*
Director of « Etudes CNAM Midi-Pyrénées », *1994 -1999*
Vice-Chairman of the European Chemical Society, *Jan. 1995-2000*
Director, UMR 5069 (Univ. Paul Sabatier, France), *Jan. 1999-Dec. 2005*
Member of « Comité National d'Evaluation de la Recherche (CNER) », *1999-2003*
Member of « Conseil Scientifique du département Sciences Chimiques du CNRS », *2000-2001*
Member of « Conseil Scientifique de l'ENS Lyon », *2001-2004*
Director of the UCR-CNRS Joint Research Laboratory (University of California, Riverside, USA), *2001-2012*
Elected member of « Conseil Scientifique de l'Université Paul Sabatier », *2002-2006*
Adhoc Member of the MCHA Study Section (NIH), *June 2004*
Adhoc Member of the SBCB Study Section (NIH), *June 2005*
Adhoc Member of the SBCB Study Section (NIH), *October 2009*
Director of the UCSD-CNRS Joint Research Laboratory (University of California, San Diego, USA), *2012-present*

Teaching Activities

Maître de Conférence, Ecole Polytechnique (Paris), *1992 - 1999*
Professor, Ecole Polytechnique (Paris), *2000-2004*
Professor, University of California, Riverside, USA, *2001-2012*
Professor, University of California, San Diego, USA, *2012-present*

Diffusion of Scientific Information

Co-Chairman, EUCHEM-PSIBLOCS Conference, Palaiseau, *Sept. 1988*
Co-Chairman, XIIth International Conference on Phosphorus Chemistry (ICPC), Toulouse, *July 1992*
Chairman, Carbene Zing Conference, Cancun (Mexico) February 18-21, 2009
Chairman, Symposium "Frontiers in Organometallic Chemistry" PACIFICHEM Conference, Honolulu, Hawaii (USA) December 14-20, 2010.

Member of the Advisory Committee of Heron Island Conferences on Reactive Intermediates, *1994-present*
Member of the Editorial Board, "Heteroatom Chemistry", *1989-present*
Member of the Editorial Board, "Chemical Reviews", *1989-2021*
Member of the Editorial Board, "Bull. Soc. Chim. Fr.", *1996-1998*
Member of the Editorial Board, "Topics in Stereochemistry", *1996-2005*
Member of the Editorial Board, "C. R. Acad. Sc. Paris", *1998-present*
Member of the Editorial Board, "Eur. J. Inorg. Chem.", *December 2002-present*
Member of the Editorial Board, "Chemistry: an Asian Journal.", *2006-2021*
Member of the Editorial Board, "Chemistry Letters", *2010-present*
Member of the Editorial Board "Chemical Science"*, 2010-present*
Member of the Editorial Advisory Panel for "Nature Communications"*, 2010-2016*
Member of the Editorial Board "Organic Chemistry Frontiers (OCF) (RSC), *2013-present*
Member of Senior Editors of Bulletin Chemical Society of Japan, *2013-present*
Member of the Editorial Board of "Chem" (Cell Press), *2015-present*
Member of the Advisory Board of "Natural Sciences", *2021*-present

Guest Editor, "Phosphorus, Sulfur, and Silicon" Vol. 75-77, *1993*
Guest Editor, "Chemical Reviews", special issue on Phosphorus Chemistry, *August 1994*
Associate Editor, "Bull. Soc. Chim. Fr. ", *July 1991 - Dec. 1995*
Editor, "European Chemistry Chronicle", *1996 - 1998*
Regional Editor, "J. Organomet. Chem. ", *January 1999-December 2010*
Guest Editor, "Chemical Reviews", Special issue on Carbene Chemistry, *August 2009*
Guest Editor, "Chemical Reviews", Special issue on Main Group Chemistry, *August 2010*
Associate Editor, "Chemical Reviews", *2010-2021*

Awards

International Council on Main Group Chemistry Award, *1993*
French-German Humboldt Award, *1994*
Médaille d'Argent du CNRS, *1998*
Japanese Society for Promotion of Science Award, *1999*
Sir Ronald Nyholm Lectureship and Medal of the RSC, *2009-2010*
Senior Humboldt Research Award, Reinvitation, *2010*

Grand Prix Le Bel of the French Chemical Society, *2010*
Chevalier de la Legion d'Honneur, *2013*
ACS Award in Inorganic Chemistry, *2014*
Senior Humboldt Research Award, Reinvitation, *2015*
Sir Geoffrey Wilkinson Award of the RSC, *2016*
Sacconi Medal of the Italian Chemical Society, *2017*
Highly Cited Researcher, Web of Science, *2017*
Grand Prix de la Maison de la Chimie (shared with K. Matyjaszewski), *2020*

Academy membership

Membre Correspondant de l'Institut (French Academy of Sciences), *1996*
Member of the Académie des Technologies, *2000*
Member of the Academia Europea, *2002*
Member of the European Academy of Sciences, *2003*
Member the French Academy of Sciences, *2004*
Fellow of the American Association for Advancement of Science, *2006*
Member of the German National Academy of Sciences Leopoldina, *2023*

Honorary lectureship

Visiting Associate Professor at Utah University, Salt Lake City, USA, *June-Sept. 1983*
Humboldt junior award at T. U. München, Germany, *Nov. 1988-May 1989*
Visiting Professor at ETH Zürich, *June-Sept. 1998*
Kharasch Lecturer, University of Chicago, *1998*
Taiwan National Science Foundation Distinguished Lectureship, *2003*
East Cost Lecturer (Scotland), *2007*
Novartis Lectureship at the Scripps Research Institute, La Jolla, *2009-2010*
Anthony J. Arduengo, III Lectureship of the University of Alabama, *2010*
Pattison Lectureship, University of Western Ontario, *2010-2011*
Bruker Lectureship, University of Toronto, *2010*
Eli Lilly Lectureship, University of Illinois, Urbana-Champaign, *2010-2011*
PKU-Eli Lilly Lecture, Peking University in Beijing, China, *2011.*
Raymond Siedle Distinguished Lecture, Indiana University, Bloomington, *2012*
Frontiers in Chemical Research Lectureship, Texas A&M University, College Station, *2012-2013*
McRae Lectureship, Queen's University, Kingston, Canada, *2012-2013*
Gordon Stone Lectureship, School of Chemistry at the University of Bristol, UK, *2013*
Andrews Lectureship, Mississipi State University, *2014*
The Swiss Chemical Society Lectureship, *2015.*
Gordon Stone Lectureship, Baylor University, *2015*
Inaugural Anton B. Burg Memorial lecturership, USC, *2015*
Charles F. Hutchison Memorial Lectureship, University of Rochester, *2016*
Debye Lectureship, Cornell University, *2016*
Luojia Lecturship, Wuhan University (China), *2017*
Vilsmeier Lecturship, University of Regensburg (Germany), *2018*
Named "Distinguished Visiting Professor" at Tsinghua University (China), *2018*

Named “Honorable Professor” at Wuhan University of Technology (China), *2018*
Strem lecturership in chemical catalysis at Boston College, *2019-2020*.
Neil Bartlett lectureship at UC Berkeley, *2021.*
Silliman Lectureship at Yale, *2022*
Fellow of the Hagler Institute for Advanced Study at Texas A&M University, *2022-2023*
Moses Gomberg Lectureship at the University of Michigan, *2024*
Luigi M. Venanzi lectureship at the ETH Zurich, *2024*

PUBLICATIONS

1 *Réarrangements thermiques d'oxa-6 sila-2 bicyclo[3.1.0]hexanes : oxa-1 sila-2 cyclohexènes-5 et sila-1 cyclopentanone-3.* M. Lesbre, G. Bertrand, G. Manuel, P. Mazerolles, **C. R. Acad. Sc. Paris Série C 1977,** *284*, 709-712.

2 *Synthèse et réarrangements de cycles α-fonctionnels du germanium : oxa-6 diphényl-2,2 germa--2-bicyclo [3.1.0]hexane et diphényl-1,1 germa-1 cyclopentanol-2. Etude comparative avec les dérivés isologues du silicium.* G. Manuel, G. Bertrand, P. Mazerolles, **J. Organomet. Chem. 1978**, *146* (l), 7-16.

3 *Synthèses et réarrangements thermiques de sila-1 et sila-2 dichloro-6,6 bicyclo[3.1.0]hexanes.* G. Bertrand, G. Manuel, P. Mazerolles, **J. Organomet. Chem. 1978**, *144* (3), 303-315.

4 *Délocalisation à travers un atome de silicium. Formation d'un ion silicénium au cours du piégeage du méthyl-2 sila-2 butadiène-1,3.* G. Bertrand, G. Manuel, P. Mazerolles, **Tetrahedron Lett. 1978**, *19*, 2149-2152.

5 *Hypothèses sur la formation par pyrolyse du premier intermédiaire à silicium digonal.* G. Bertrand, G. Manuel, P. Mazerolles, **Tetrahedron 1978**, *34* (13), 1951-1956.

6 *Theoretical investigations on some C_2SiH_4 isomers.* J. C. Barthelat, G. Trinquier, G. Bertrand, **J. Am. Chem. Soc. 1979**, *101*, 3785-3789.

7 *Claisen rearrangement in the silicon series.* J. Ancelle, G. Bertrand, M. Joanny, P. Mazerolles, **Tetrahedron Lett. 1979**, *20*, 3153-3156.

8 *Asymmetric induction at silicon from prochiral silaethylenes.* G. Bertrand, J. Dubac, P. Mazerolles, J. Ancelle, **J. Chem. Soc., Chem. Commun. 1980,** 382-383.

9 *Photolytic rearrangement of phosphorus azide. Evidence for a transient metaphosphonimidate.* G. Bertrand, J.P. Majoral, A. Baceiredo, **Tetrahedron Lett. 1980,** *21*, 5015-5018.

10 *Le réarrangement de Claisen en séries siliciée et germaniée : silaéthylène et germaéthylène.* G. Bertrand, P. Mazerolles, J. Ancelle, **Tetrahedron 1981,** *37*, 2459-2466.

11 *Isomérisations thermiques originales de composés β-chlorés du silicium induites par un groupe β'-éthylénique.* G. Manuel, G. Bertrand, P. Mazerolles, J. Ancelle, **J. Organomet. Chem. 1981,** *212*, 311-323.

12 *Photolytic rearrangement of germanium azides. Evidence for transient germa-imines.* A. Baceiredo, G. Bertrand, P. Mazerolles, **Tetrahedron Lett. 1981,** *22*, 2553-2556.

13 *Le problème de la conjugaison à travers un atome de silicium π-lié dans les systèmes sila-2 butadiéniques*. G. Bertrand, G. Manuel, P. Mazerolles, G. Trinquier, **Tetrahedron 1981,** *37*, 2875-2880.

14 *Surprising reactivity of very crowded phosphinic derivatives.* A. Baceiredo, G. Bertrand, P. Mazerolles, J. P. Majoral, **J. Chem. Soc., Chem. Commun. 1981**, 1197-1198.

15 *Photolytic rearrangement of phosphorus, germanium and silicon azides: evidence for new hybridized species.* J. P. Majoral, G. Bertrand, A. Baceiredo, P. Mazerolles, **A.C.S. Series 1981,** *171*, 597-600.

16 *First asymmetric synthesis of functionalized mono-aromatic or non-aromatic silanes from prochiral silaethylenes.* G. Bertrand, J. Dubac, P. Mazerolles, J. Ancelle, **Nouveau J. de Chimie 1981,** *6*, 381-386.

17 *Les extraterrestres sont-ils en silicium ?* S. Ortoli, G. Bertrand, **Science et Vie, 1982,** *780*, 26-29.

18 *A new route to bis(2,4,6-tri-tert-butylphenyl)diphosphene via silylated compound.* G. Bertrand, C. Couret, J. Escudie, S. Majid, J. P. Majoral, **Tetrahedron Lett. 1982,** *23*, 3567-3570.

19 *An improved synthesis of key intermediates in metallole 4B chemistry.* G. Manuel, G. Bertrand, F. El Anba**, Organometallics 1983,** *2,* 391-394.

20 *Réarrangement de Curtius en série organométallique : photolyse d'azotures du phosphore tétra- coordonné pentavalent*. A. Baceiredo, G. Bertrand, J. P. Majoral, **Nouveau J. de Chimie 1983,** *7*, 255-261.

21 *Le rérrangement de Curtius en série siliciée : mécanismes et applications synthétiques.* A. Baceiredo, G. Bertrand, J. P. Majoral, P. Mazerolles, **Nouveau J. de Chimie 1983,** ***7*,** 645-651.

22 *Stannylene and germylene as powerful dechlorinated reagents : new route to diphosphene*. M. Veith, V. Huch, J. P. Majoral, G. Bertrand, G. Manuel, **Tetrahedron Lett. 1983,** *24*, 4219-4222.

23 *Synthèse et propriétés pharmacologiques du (d-1)thia-PAF*. A. Bernat, G. Bertrand, D. Delebassee, B. Garrigues, J. P. Maffrand, E. Vallee, **J. de Pharmacologie 1983,** *14*(1), 49.

24 *Photolysis of phosphonium and phosphorane azides.* J. P. Majoral, G. Bertrand, A. Baceiredo, M. Mulliez, R. Schmutzler, **Phosphorus Sulfur 18, 221-224 (1983)**

25 *First evidence for a Curtius type rearrangement involving a pentacoordinated atom.* A. Baceiredo, G. Bertrand, J. P. Majoral, U. Wermuth, R. Schmutzler, **J. Am. Chem. Soc. 1984,** *106*, 7065-7068.

26 *Synthesis and structure of the first cyclodiphosphazene. Dimerization of a phosphonitrile >P≡N*. A. Baceiredo, G. Bertrand, J. P. Majoral, G. Sicard, J. Jaud, J. Galy, **J. Am. Chem. Soc. 1984,** *106*, 6088-6089.

27 *First evidence for an intermediate nitrilo -λ^5-phosphane (>P≡N)*. G. Sicard, A. Baceiredo, G. Bertrand, J. P. Majoral, **Angew. Chem. Int. Ed. Engl. 1984,** *23*, 459-460.

28 *Thermolysis of 6-oxa-3-silabicyclo[3.1.0]hexanes : a new convenient route to silicon-oxygen π-bonded species*. G. Manuel, G. Bertrand, W. P. Weber, S. A. Kazoura, **Organometallics 1984,** *3*, 1340-1343.

29 *Reactions of phosphorus electrophiles with [(η^5-C_5Me_5)Fe(CO)$_2$]$^-$: spectroscopic evidence for a phosphinidene complex*. H. Nakazawa, W. E. Buhro, G. Bertrand, J. A. Gladysz, **Inorg. Chem. 1984,** *23*, 3431-3433.

30 *First evidence for a Curtius type rearrangement involving a charged atom. An easy synthesis of an iminophosphonium salt*. M. Mulliez, J. P. Majoral, G. Bertrand, **J. Chem. Soc., Chem. Commun. 1984,** 284-285.

31 *An efficient synthesis of azathia analogs of platelet activating factor*. B. Garrigues, G. Bertrand, J. P. Maffrand, **Synthesis 1984,** 870-872.

32 *Synthèse de la d,1-(acetoxy-2 octadecylthio-1)propyl-3 phosphorylcholine ou Thia-PAF*. B. Garrigues, G. Bertrand, D. Frehel, J. P. Maffrand, **Phosphorus and Sulfur 1984,** *21*, 171-176.

33 *Versatile photochemical behavior of phosphorus azides : Curtius-type rearrangement and diverse fates of α-phosphorus nitrenes.* A. Baceiredo, G. Bertrand, J.P. Majoral, F. El Anba, G. Manuel, **J. Am. Chem. Soc. 1985,** *107*, 3945-3949.

34 *Synthesis of the first α-diazo phosphines. Phosphorus-carbon multiple bond character of phosphinocarbenes*. A. Baceiredo, G. Bertrand, G. Sicard, **J. Am. Chem. Soc. 1985,** *107*, 4781-4783.

35 *Kinetics and mechanism of the pyrolysis of 6-oxa-3,3-dimethyl-3-silabicyclo[3.1.0]hexane, a dimethylsilanone precursor.* I. M.T. Davidson, A. Fenton, G. Manuel , G. Bertrand, **Organometallics 1985,** *4*, 1324-1327.

36 *Binding phosphinidenes to transition-metal fragments*. G. Trinquier, G. Bertrand, **Inorg. Chem. 1985,** *24*, 3842-3856.

37 *The reactions of some azides with an anionic phosphorus(III) complex*. A. Baceiredo, G. Bertrand, J.P. Majoral, K.B. Dillon, **J. Chem. Soc., Chem. Commun. 1985,** 562-563.

38 *Azides of heavier main group elements : the reluctance of phosphine azides to undergo a Curtius type rearrangement.* E. Ocando, S. Majid, J. P. Majoral, A. Baceiredo, G. Bertrand **Polyhedron 1985,** *4*, 1667-1668.

39 *Synthèse de la d,1-(acetoxy-3 octadecylthio-1) propyl-2 phosphorylcholine : un isomère géométrique du thia-PAF*. B. Garrigues, G. Bertrand, J. P. Maffrand, **Phosphorus and Sulfur 1986,** *26*, 53-56.

40 *α-diazophosphines stables analogie λ^3-phosphinocarbene/λ^5-phosphaacetylene.* A. Baceiredo, G. Bertrand, **Phosphorus and Sulfur 1986,** *26*, 57-62.

41 *Phosphorus-nitrogen triple-bonded species.* J. P. Majoral, G. Bertrand, A. Baceiredo, E. Ocando-Mavarez, **Phosphorus and Sulfur 1986,** *27*, 75-80.

42 *First example of prototropism in iminobis(phosphines) induced by phosphorus alkylation*. A. M. Caminade, E. Ocando, J. P. Majoral, M. Cristante, G. Bertrand, **Inorg. Chem. 1986,** *25*, 712-714.

43 *Phosphonitriles : versatile intermediates*. J. Boske, E. Niecke, E. Ocando-Mavarez, J. P. Majoral, G. Bertrand, **Inorg. Chem. 1986,** *25*, 2695-2698.

44 *Phosphorus azides, powerful reagents in heterocyclic chemistry.* J. P. Majoral, G. Bertrand, E. Ocando-Mavarez, A. Baceiredo, **Bull. Soc. Chim. Belg. 1986,** *95*, 945-957.

45 *Phosphinocarbene-phosphaalkene rearrangement and intramolecular Wittig-like reaction involving a phosphorus vinyl ylide*. A. Baceiredo, A. Igau, G. Bertrand, M. J. Menu, Y. Dartiguenave, J. J. Bonnet, **J. Am. Chem. Soc. 1986,** *108*, 7868-7869.

46 *Triple-bonded-like tricoordinated phosphorus species >P≡.* G. Bertrand, A. Baceiredo, G. Sicard, M. Granier, **Phosphorus and Sulfur 1987,** *30*, 353-356.

47 *Synthesis and electrocyclic ring opening of 1,3,2λ^3,4λ^5-diazadiphosphetines*. J. Boske, E. Ocando-Mavarez, E. Niecke, J. P. Majoral, G. Bertrand, **J. Am. Chem. Soc. 1987,** *109*, 2822-2823.

48 *Synthesis and reactivity of diazomethylenephosphoranes (->P=C=N_2): new phosphacumulene ylides and first stable pseudounsaturated diazo derivatives.* J. M. Sotiropoulos, A. Baceiredo, G. Bertrand, **J. Am. Chem. Soc. 1987,** *109*, 4711-4712.

49 *Reaction of the (trimethylsilyl)diazomethane anion with metal complexes: synthesis and X-ray study of iodomethyltris(trimethylphosphine)rhodium(III)(trimethylsilyl)diazomethane, $RhICH_3$ $(PMe_3)_3\{C(N_2)SiMe_3\}$.* M. J. Menu, P. Desrosiers, M. Dartiguenave, Y. Dartiguenave, G. Bertrand, **Organometallics 1987,** *6*, 1822-1824.

50 *A new route to nitrile oxides via α-nitrosodiazo derivatives*. G. Sicard, A. Baceiredo, G. Crocco, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1988,** *27*, 301-302.

51 *Synthesis and reactivity of a stable nitrile imine.* G. Sicard, A. Baceiredo, G. Bertrand, **J. Am. Chem. Soc. 1988,** *110*, 2663-2664.

52 *First direct evidence for nitrile imine-diazo isomerization. Synthesis of relatively stable N-silylated nitrile imines.* M. Granier, A. Baceiredo, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1988,** *27*, 1350-1351.

53 *Analogous α,α' bis carbenoid triply bonded species : synthesis of a stable λ^3-phosphinocarbene – λ^5-phosphaacetylene*. A. Igau, H. Grutzmacher, A. Baceiredo, G. Bertrand, **J. Am. Chem. Soc. 1988,** *110*, 6463-6466.

54 *Reactivity of $Rh(PMe_3)_4Cl$ with lithium derivatives of phosphorus-substituted diazomethanes. First evidence for a transient nitrogen-transition-metal nitrile imine. X-ray structure of $(PMe_3)_2RhNBuNCHP(N\text{-}i\text{-}Pr_2)_2$*. M. J. Menu, G. Crocco, M. Dartiguenave, Y. Dartiguenave, G. Bertrand, **Organometallics 1988,** *7*, 2231-2233.

55 *Synthesis of N-bonded diazoalkane complexes via the reaction of the trimethylsilyldiazomethane anion with $M(CO)_5PPh_3$ (M = Cr; W): X-ray structure of $W(CO)_4(PPh_3)[N_2C(SiMe_3)_2]$*. M. J. Menu, G. Crocco, M. Dartiguenave, Y. Dartiguenave, G. Bertrand, **J. Chem. Soc., Chem. Commun. 1988,** 1598-1599.

56 *[Bis(diisopropylamino)phosphino]trimethylsilylcarbene : a stable nucleophilic carbene*. A. Igau, A. Baceiredo, G. Trinquier, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1989,** *28*, 621-622.

57 *Reactivity of phosphonitriles with low-coordinated phosphorus double-bonded compounds*. J. Boske, E. Niecke, M. Nieger, E. Ocando, J. P. Majoral, G. Bertrand, **Inorg. Chem. 1989,** *28*, 499-504.

58 *Analogy α,α'-bis carbenoid - triply-bonded species: attempted synthesis of $\sigma^2\lambda^3$-phospha-carbene (-C-P=C<) – $\sigma^2\lambda^5$-phosphaacetylene (-C≡P=C<)*. A. Igau, A. Baceiredo, G. Bertrand, K. Kuhnel Lysek, E. Niecke, **New J. Chem. 1989, *13*,** 359-362.

59 *First structural characterization of an α-diazophosphane : crystal structure of bis[bis(diiso-propylamino)phosphanyl]diazomethane $[(i\text{-}Pr_2N)_2P]_2CN_2$*. M. J. Menu, M. Dartiguenave, Y. Dartiguenvae, J. J. Bonnet, G. Bertrand, A. Baceiredo, **J. Organomet. Chem. 1989,** *372*, 201-206.

60 *A distillable C- and N-silylated nitrile imine*. F. Castan, A. Baceiredo, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1989,** *28*, 1250-1251.

61 *Synthesis, reactivity, and crystal structure of the first methylenephosphonium ion : a severely twisted valence isoelectronic olefin.* A. Igau, A. Baceiredo, H. Grutzmacher, H. Pritzkow, G. Bertrand, **J. Am. Chem. Soc. 1989,** *111*, 6853-6854.

62 *Evidence for α-phosphanyl-α'-sulfinylcarbene to α-phosphoranyl-α'-sulfanylcarbene rearran- gement. Synthesis of 2-oxo- and 2-thioxo-1,2λ^5-azaphosphetanes*. G. Sicard, H. Grutzmacher, A. Baceiredo, J. Fischer, G. Bertrand, **J. Org. Chem. 1989,** *54*, 4426-4430.

63 *Synthesis and reactivity of stable phosphorus-substituted nitrilimines; X-ray crystal structure of C-[bis(diisopropylamino)thioxophosphoranyl]-N-[bis(diisopropylamino)-phosphanyl]nitrilimine.* M. Granier, A. Baceiredo, Y. Dartiguenave, M. Dartiguenave, M. J. Menu, G. Bertrand, **J. Am. Chem. Soc. 1990,** *112*, 6277-6285.

64 *Direct evidence for nitrile imine - imidoylnitrene rearrangement : X-ray crystal structure of an unusual nitrene complex*. M. Granier, A. Baceiredo, H. Grutzmacher, H. Pritzkow, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1990,** *29*, 659-661.

65 *Electron-impact and flash-vacuum pyrolysis of trivalent and pentavalent phosphorus azides: generation of original unsaturated mono-, di- and tricoordinated phosphorus cations*. A. Maquestiau, L. Z. Chen, R. Flammang, J. P. Majoral, G. Bertrand, **Inorg. Chem. 1990,** *29*, 3097-3102.

66 *Synthesis and reactivity of the first stable λ^5-phosphaacetylene.* G. Bertrand, A. Igau, A. Baceiredo, H. Grutzmacher, **Phosphorus, Sulfur, and Silicon 1990,** *49/50*, 301-304.

67 *Use of phosphorus for stabilizing highly reactive organic species: nitrileimines and pseudo-diazo-alkenes*. A. Baceiredo, M. Granier, F. Castan, J. M. Sotiropoulos, G. Bertrand **Phosphorus, Sulfur, and Silicon 1990,** *49/50,* 131-134.

68 *Stereospecific formation of a 1,2λ^3-azaphosphetane in the thermolysis of bis[bis(diisopropyl- amino)phosphanyl]diazomethane.* M. J. Menu, Y. Dartiguenave, M. Dartiguenave, A. Baceiredo, G. Bertrand, **Phosphorus, Sulfur, and Silicon 1990,** *47*, 327-334.

69 *An N-phosphino C-thiophosphinoyl nitrilimine as a formal 1,4 dipole : synthesis of 1,2,3λ^5-diaza- and 1,2,4,3λ^5-triazaphosphinines*. M. Granier, A. Baceiredo, M. Nieger, G. Bertrand **Angew. Chem. Int. Ed. Engl. 1990,** *29*, 1123-1125.

70 *Spontaneous formation of stable phosphino(silyl)-carbenes from unstable diazo compounds*. G. Gillette, A. Baceiredo, G. Bertrand, **Angew. Chem. Int. Ed. Engl. 1990,** *29*, 1429-1431.

71 *Stable phosphanyl silyl carbenes : synthesis and reactivity.* G. R. Gillette, A. Igau, A. Baceiredo, G. Bertrand, **New J. Chim. 1991,** *15*, 393-400.

72 *Synthesis and reactivity of stable silyl-substituted nitrilimines*. F. Castan, A. Baceiredo, D. Bigg, G. Bertrand, **J. Org. Chem. 1991,** *56*, 1801-1807.

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2 Stable phosphinocarbene, nitrileimine and diazomethylenephosphorane
The Third Chemical Congress of North America, Toronto (Canada), June 1988

3 Synthesis and reactivity of the first stable λ^5-phosphaacetylene
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4 Use of phosphorus for stabilizing highly reactive organic molecules
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5 Basses coordinences : de la curiosité de laboratoire à l'outil de synthèse
Colloque sur les Basses Coordinences en Hétérochimie. Quel futur, quelles applications ? Toulouse (France), October 1989

6 Cumulenic diazo derivatives, nitrile-imines and carbenes : from highly unstable species to isolable compounds
Symposium on Nitrogen Rings and Chains : The Legacy of Theodor Curtius, Heidelberg (Germany), March 1990

7 Use of phosphorus for stabilizing highly reactive species
International Conference on Organic and Bioorganic Chemistry of Phosphorus, Lodz (Poland), June 1990

8 Utilisation d'hétéroatomes pour stabiliser des espèces organiques hautement réactives
Club CRIN "Journée Hétérochimie", Paris (France), March 1991

9 Use of heteroatoms for stabilizing highly reactive organic species
International Workshop on Reactive intermediates, Heron Island, Queensland (Australia), July 1991

10 Stable carbenes, nitrilimines, diazocumulenes, mono- and tri-coordinated phosphorus cations
SFC 91, 4ème Congrès de la Société Française de Chimie, Strasbourg (France), September 1991

11 Use of heavier main group elements for stabilizing highly reactive organic species
Japanese Conference on Heteroatom Chemistry, Osaka (Japan), January 1992

12 Des intermédiaires réactionnels stables
Journées de Chimie Organique de Palaiseau (France), September 1992

13 New stable free carbenes and new types of phosphorus cations
Gordon Research Conference on Organometallic Chemistry, Rhode Island (USA), July 1993

14* Aromaticity and anti-aromaticity : what can we do with phosphorus ?
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15* Antiaromatic inorganic ring systems
VIIth International Conference on Inorganic Ring Systems (IRIS VII), Banff (Canada), August 1994

16 Phosphorus substituted "CN_2" groups: building blocks in heterocyclic chemistry
XVIth European Colloquim on Heterocyclic Chemistry, Bled (Slovenia), September 1994

17* Cyclodiphosphazenes-polyphosphazenes and related rings and polymers
VIth International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-6), Kyoto (Japan), November 1994

18 New aspects of the chemistry of azido and diazo groups : building blocks for original heterocycles
International Conference on Chemistry of Functional Organic Chemicals (IFOC), Tokyo (Japan) November 1994

19 Silicon and Tin: two very different cousins
Workshop on Silicon Chemistry, Tsukuba (Japan), November 1994

20 Synthesis and reactivity of 4-π-electron 4-membered phosphorus heterocycles
Worshop on Organic and Inorganic Chemistry of Reactive C=X π-systems, Münster (Germany), November 1994

21 Synthesis and reactivity of relatively stable isodiazirine
International Chemical Congress of Pacific Basin Societies, Honolulu (USA), December 1995

22 The trimethylsilyl diazomethane: a wonderful building block
The 3rd Munich Silicondays, Munich (Germany), April 1996

23 Phosphorus in a highly versatile element
Summer School on Modern Main Group Chemistry, Champéry (Switzerland), September 1996

24 Double and triple bonded phosphorus derivatives
Summer School on Modern Main Group Chemistry, Champéry (Switzerland), September 1996

25 Phosphorus in organic chemistry
Summer School on Modern Main Group Chemistry, Champéry (Switzerland), September 1996

26 Phosphorus in transition metal chemistry
Summer School on Modern Main Group Chemistry, Champéry (Switzerland), September 1996

27 Des résidus de produits phytosanitaires et des métaux lourds
Festival de l'eau. Eau et santé, Rodez (France), October 1996

28 Group 13 to 15 elements: from small membered rings to polymers through macrocycles
23rd Symposium on Heteroatom Chemistry, Okayama (Japan), December 1996

29 Des molécules exotiques aux applications
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30 Nouvelles bases fortes non ioniques
IIIème Rencontres "Recherche, Science et Technologies des deux côtés des Pyrénées", Andorre (Andorra), June 1997

31 Phosphorus Analogs of 2H- and 1H-diazirines, diazirinium and Diazirinyl radical
International Conference on Reactive Intermediates and Unusual Molecules, Lake Tahoe, California (USA), July 14-19, 1997

32 From exotic molecules to applied chemistry
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33 Des molécules exotiques aux applications
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34 A new type of benzene valence isomer and one-electron phosphorus-phosphorus bond
FACS, Cannes (France), June 2-5, 1998

35 One-electron phosphorus-phosphorus bond
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36 Let's play with bon order in phosphorus chemistry
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37* Are stable silyl carbenes genuine carbenes ?
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38 Phosphorus-phosphorus half bonds do exist. What about silicon-silicon half bonds?
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39 Heterocyclic bis(carbene) and cationic carbene as ligands for transition metals
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40 Main group element half bonds
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42 Sometimes it's not organic but main group chemistry, which leads the way
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43 Nouveaux types de carbènes comme ligands pour les métaux de transition
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44 Des concepts simples et des résultats originaux
SFC/Section Midi-Pyrénées, Toulouse (France), May 25, 2000

45 A cyclic carbanionic valence isomer of a carbocation
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46 Exploiting the phosphorus trick
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47 Stable versions of transient push-pull carbenes
Pacifichem, Symposium on Reactive Intermediates and Unusual Molecules, Honolulu (USA), December 14-21, 2000

48 Phosphorus analogs of amidinium salts
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49 La chimie avec ou sans hétéroélément(s) : quelle différence !
Micro-symposium IUF, Talence (France), March 3, 2001

50 Chemistry of organophosphorus compounds
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51 New types of bonding in main group chemistry
84ème Canadian Society for Chemistry Conference & Exhibition, Montréal (Canada), May 26-30, 2001

52 Chemistry with and without main group element : what a difference !
1st International Rhodia Conference, Lyon (France), July 02-05, 2001

53 Stable singlet biradicals in phosphorus chemistry
15th International Conference on Phosphorus Chemistry, Sendai (Japan) July 29 – August 3, 2001 (Cancelled)

54 Quelques spécificités de la chimie des éléments principaux
42ème Groupe d'Etudes de Chimie Organique, Batz-sur-Mer (France), September 02-07, 2001

55 Chemistry with and without heavier main group elements : what a difference for reactive intermediates
International Symposium on Reactive Intermediates and Unusual Molecules, Nara (Japan), September 08-13, 2001

56 New types of bonding in main group chemistry
ACS Meeting, Chicago (USA), August 25-26, 2001

57 Stable carbenes in organic synthesis
Cost D12 Workshop, La Laguna, Tenerife (Spain), September 20-23, 2001 (Cancelled)

58 New stable carbenes and diradicals
ACS Meeting, "Inorganic Chemistry Award Symposium" New Orleans (USA), March 23-27, 2003

59 Chemistry with and without main group element: what a difference!
Inorganic Chemistry Colloquium, **Cambridge (UK), June 5, 2003 (Cancelled)**

60* Chemistry with and without main group element: what a difference!
Encuentro de Química Inorgánica Cuernavaca 2003 , **(Mexico), June 12-14, 2003**

61 New types of stable carbenes
Gordon Conference on Organometallic Chemistry, Newport (USA), July 20-25, 2003

62* Stable diradicals based on heavier main group elements
10th International Symposium on Inorganic Ring Systems, Burlington (USA) August 17-22, 2003 (Cancelled)

63 New types of stable carbenes as ligands for transition metals
ACS Meeting "Frontiers in Organometallic Chemistry Symposium" New York (USA) September 7-11, 2003

64* Exotic lithium derivatives
The Third Conference on the Chemistry of the Alkali and Alkaline Earth Metals (ALKCHEM-3), Würzburg (Germany) September 28-10, 2003 (Cancelled)

65* Stable Singlet Diradicals and Tetraradicals Based on Group 13 and 15 Elements
Center of Excellence International Symposium on Elements Science. Kyoto (Japan) January 9-10, 2004

66 Stable diradicals and tetraradicals

ACS Meeting "Main group Chemistry Symposium" Anaheim (USA) March 28 – April 4, 2004

67* Towards libraries of Carbenes via Substitution Reactions at a Carbene Center: Application in catalysis
Symposium of the French-Japanese Society for Medicinal and Fine Chemistry, Sendai (Japan) May 17-20, 2004

68 New Stable Diradicals based on Phosphorus
XVIth International Conference on Phosphorus Chemistry, Birmingham (UK) July 4-9, 2004

69* Stable Non N-Heterocyclic Carbenes: New ligands for transition metal catalysts
XXIst International Conference on Organometallic Chemistry (ICOMC), Vancouver (Canada) July 25-30, 2004

70 Stable non-NHCs
ACS Meeting "NHCarbenes Symposium" Philadephia (USA) August 22-27, 2004

71 Stable Carbenes based on boron
ACS Meeting, "Albert Cotton Award Symposium" San Diego (USA), 3/13-16/2005

72* New Families of Stable Cyclic Carbenes for the Preparation of Highly Active Catalysts and Low Ligated transition metals
XVIth FECHEM Conference on Organometallic Chemistry, Budapest (Hungary) September 3-8, 2005.

73* New Families of Stable Cyclic Carbenes for the Preparation of Highly Active Catalysts and Low Ligated transition metals
International Symposium on Dynamic Complexes, Sendai (Japan) October 23-25, 2005.

74 Chemistry with and without silicon and other main group elements: what a difference!
Japanese Silicon Meeting, Hiroshima (Japan) October 28-29, 2005.

75 New Families of Stable Cyclic Carbenes (non NHCs) for the Preparation of Highly Active Catalysts
6th Annual UCSD/Merck Symposium on Perspectives in Organic Synthesis, San Diego (USA) December 12, 2005.

76 New families of stable carbenes
2005 Pacifichem Conference "Symposium on Reactive Intermediates and Unusual Molecules" Hawai (USA) December 2005

77 Stable cyclic (amino)(alkyl)carbenes as ligands for transition metal complexes featuring very high catalytic activity
2005 Pacifichem Conference "Symposium on New Organometallic Compounds for Applications in Homogeneous Catalysis" Hawai (USA) December 2005

78 New Families of Stable Cyclic Carbenes (non NHCs) for the Preparation of Highly Active Catalysts
DFG symposium, **Tagungshotel Schleiden-Bonn (Germany) 5/7-9/2006**

79 Chemistry with and without main group elements: what a difference!
Grand Opening Symposium of the Main Group Chemistry Research Center, Bristol (UK) July 28, 2006.

80* Diradicals
11th International Symposium on Inorganic Ring Systems, Oulu (Finland) 7/30-8/4/2006

81 Stable singlet diradicals, polyradicals and carbenes based on boron
ACS Meeting, "Polyfunctional Organoboranes: From Molecules to Materials Symposium" San Francisco (USA), 9/10-14/2006

82* Stable carbenes can help, and even do the job of transition metals
42nd EUCHEM Conference on Stereochemsitry, Burgenstock (Switzerland) April 14-20, 2007

83* Chemistry with and without main group elements: what a difference!
Contemporary Main Group Chemistry Symposium, St-Andrews (Scotland) June 5, 2007

84 Can a non-metal do the job of a transition metal?
Inorganic Chemistry Gordon Research Conference, Newport (USA) July 15-20, 2007

85 Can a carbene do the job of a metal?
ACS Meeting "Frontiers in Organometallic Chemistry" Boston (USA) 8/19-23/2007

86* Activation of small molecules and unreactive XH bonds by Stable Singlet Carbenes
Heavier Heterocycles and Heteroatoms Zing Conference, Cancun (Mexico) February 25-28, 2008

87 Bent-allenes
2008 SynCon Meeting, (UCLA), May 10, 2008

88*. Activation of White Phosphorus by Stable Singlet Carbenes (Cancelled)
XV International Conference on Chemistry of Phosphorus Compounds (Saint-Petersburg, Russia) May 25-30, 2008.

89 1,3-Diborata-2,4-diphosphoniocyclobutane-1,3-diyls Communicate through a para-Phenyl Linker
Dalton Discussion 11, The Renaissance of Main Group Chemistry (Berkeley) June 21-25, 2008

90* Stable diradicals, bond-stretch isomers, and carbenes based on boron
IMEBORON XIII Barcelona- Platja d´Aro (Spain) September 21-25, 2008

91* Stable carbenes and bent-allenes as strong donor ligands for Transition Metal Catalysts
Catalysis, NMR, Symmetry, Theory: A tribute to Paul Pregosin, ETH Zurich, (Switzerland) October 27 2008

92 From crazy molecules (A tribute to Edgar) to catalysis.
Edgar Niecke Feast, Bonn, (Germany) January 5, 2009

93 Novel families of carbon ligands, novel catalytic reactions
Carbene Zing Conference, Cancun (Mexico) February 18-21, 2009

94 Novel families of carbon ligands, novel catalytic reactions
237th ACS meeting "2009 ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Alan H. Cowley Symposium" March 22-26, 2009, Salt lake City (USA)

95* Interplay between radicals, carbenes, bent-allenes and phosphorus chemistry.
6th European Workshop on Phosphorus Chemistry, Florence (Italie) March 26-27, 2009

96* Nouvelles familles de ligands carbones, Nouvelles reactions catalytiques
Congrès de l'ACFAS (Association Canadienne-Francaise pour l'Avancement des Sciences) Ottawa (Canada) May 11-15, 2009

97 Abnormal carbenes
2008 SynCon Meeting, (USC) May 23, 2009

98 Carbene activation of P4
92th Canadian Chemistry Conference, Hamilton, Ontario (Canada) May 30- June 3, 2009

99* Carbenes and Bent-Allenes in Phosphorus Chemistry
9th International Conference on Heteroatom Chemistry (ICHAC-9) Oviedo (Spain) June 30th -July 4th, 2009

100* Carbenes and Bent-Allenes in Phosphorus Chemistry
Biannual German Chemical Society Meeting, Frankfurt (Germany) August 30-September 2, 2009

101 Interplay between radicals, carbenes, bent-allenes and phosphorus and boron chemistry.
The Diversity of Main Group Element Chemistry Symposium, Nottingham (UK), September 7, 2009

102* Interplay between radicals, carbenes, bent-allenes and phosphorus and boron chemistry.
Recent Adventures in Carbene Chemistry Symposium, Durham (UK), September 8, 2009

103* Interplay between radicals, carbenes, bent-allenes and phosphorus and boron chemistry.
Royal Society of Chemistry, Main Group Chemistry Annual Symposium, Manchester (UK) September 11, 2009

104 Interplay between radicals, carbenes, bent-allenes and main group chemistry.
International symposium on "Elemento- and Metallo-Organic Chemistry toward Materials Science", Riken, Tokyo (Japan) November 5-6, 2009

105 Title unknown (cancelled)
International Schulich Mini-Symposium on Frontiers in Computational Chemistry and Bridging Chemistry and Biology, Haifa (Israel) December 8, 2009

105 Novel families of carbon ligands, novel catalytic reactions
Dutch National Symposium on Organic Chemistry, Amsterdam (The Netherlands) April 8-9, 2010

106 Novel families of carbon ligands, novel catalytic reactions
Rencontres de Chimie Organique 2010, Paris (France) April 15, 2010

107 Novel families of carbon-based ligands, novel catalytic reactions
38th Stauffer Symposium, USC Los Angeles (USA) April 28, 2010

108 Stable Triazolylidenes
2010 SynCon Meeting, (Caltech) May 22, 2010

109 New stable carbon-based ligands, novel catalytic reactions.
93rd Canadian Chemistry Conference and Exhibition (CSC2010) (Toronto, Canada) May 29-June 2, 2010

110 NH_3-hydroamination of unactivated CC multiple bonds
DOE Contractor's Meeting (Anapolis, Maryland) June 1-4, 2010

111 Novel families of carbon-based ligands, novel catalytic reactions
Organometallic Chemistry Gordon Research Conference, Newport, RI (USA) July 11-16, 2010

112 Novel families of carbon-based ligands, novel catalytic reactions
Symposium "Frontiers in Organometallic Chemistry" PACIFICHEM Conference, Honolulu, Hawaii (USA) December 14-20, 2010

113 Stable carbenes: Past and future
Symposium "remise des Grands Prix Nationaux et Binationaux" Marseille (France) May 2, 2011

114 "Carbenes stables: Applications en catalyse et ailleurs"
Symposium "Grand Prix de la Societe Chimique de France" Toulouse (France) May 3, 2011

115 Neutral Tricoordinated Boranes as Lewis Bases
2011 SynCon Meeting, (UCI), May 14, 2011

116 Interplay between carbene and phosphorus chemistry
2011 IUPAC Congress, San Juan, Puerto Rico, July 31st-August 7th, 2011

117 Carbenes for the activation of small molecules and the stabilization of unusual phosphorus and boron species
242nd ACS National Meeting, Denver, Colorado, August 28th-September 1st, 2011

118 Novel families of carbon- and boron-based ligands, novel catalytic reactions
The 4th PKU-Eli Lilly Symposium of Organic Chemistry, Beijing (China) September 10, 2011

119 Novel families of carbon- and boron-based ligands, novel catalytic reactions
75th Anniversary Instituto de Química UNAM, Mexico (Mexico), December 8, 2011

120 Stable neutral tricoordinate organoboron derivatives isoelectronic with amines
243th ACS National Meeting, San Diego, CA, March 25th-March 29, 2012

121 Stable neutral tricoordinate organoboron derivatives isoelectronic with amines and stable phosphino nitrene.
95th Canadian Chemistry Conference and Exhibition (CSC2012) (Calgary, Canada) May 26-30, 2012

122* Stable carbenes and related species: Powerful tools in organic and inorganic chemistry.
Schulich Symposium on Recent Advances in Organic Chemistry (Technion City, Haifa, Israel) June 24, 2012

123* Activation of P_4 and Isolation of Highly Reactive Phosphorus Species.
International Conference on Phosphorus Chemistry (Rotterdam, Netherlands) July 8-12, 2012

124* Can boranes act as Lewis Bases? Can Nitrenes be isolated?
International Symposium on Reactive Intermediates and Unusual Molecules (ISRIUM) (Ascona, Switzerland) July 8-13, 2012

125* Stable carbenes for the stabilization of organoboron Lewis bases, phosphino nitrenes, and for the activation of P_4
International Symposium on Inorganic Ring Systems (IRIS 13) (Victoria, Canada) July 29-August 2, 2012

126 Stable cyclic carbenes and related species beyond NHCs
244th ACS National Meeting, Philadelphia, PA (USA), August 19-23, 2012

127* Synthesis and reactivity of unusual main group element species
ChemComm / Dalton Transactions International Symposium, Regensburg (Germany) March 21-22, 2013

128 Synthesis and reactivity of stable tricoordinate organoboron Lewis bases, phosphino nitrenes, and other unusual species
245th ACS National Meeting, New Orleans, LU (USA), April 7-11, 2013

129 Novel families of carbon- and boron-based ligands, novel catalytic reactions
Munster Symposium on Cooperative Effect in Chemistry, Munster (Germany) May 3-2013

130 Carbon-, nitrogen- and boron-based ligands
OMCOS 17, Fort Collins, CO (USA), July 28-August 1, 2013

131 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Gordon Stone Symposium, University of Bristol (England), October 16, 2013

132 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Annual Meeting of the State Key Laboratory of Elemento-Organic Chemistry of Nankai University, Tianjin (China), October 26, 2013.

133 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Award Address (ACS Award in Inorganic Chemistry sponsored by Aldrich Chemical Company, LLC)
247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014.

134 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
94th Spring annual meeting of the Japan Chemical Society Meeting, Nagoya (Japan), March 27-30, 2014.

135 Stable carbenes and other unusual species
1st Organic Chemistry Frontiers International Symposium, Shanghai (China), April 3, 2014.

136 Stable carbenes and other unusual species
International Symposium on Reactive Intermediates and Reactive molecules 2014, Hiroshima (Japan), April 1-6, 2014.

137 Stable carbenes: Synthesis and applications
4th Annual Andrews Graduate Research Symposium, Mississipi State University, May 20-21, 2014.

138 Stable carbenes beyond catalysis.
CSC 2014 Conference and Exhibition, Vancouver, Canada, June 1-5, 2014.

139* Stable carbenes: Synthesis and applications
VII International School on Organometallic Chemistry Marcial Moreno Mañas, Barcelona, Spain, June 25-27, 2014.

140* Stable carbenes and related species: Powerful tools in inorganic chemistry**.**
13th International Conference on Advancing the Chemical Sciences, ISACS 13, Dublin, Ireland, July 2-4, 2014.

141* Novel families of carbon- and boron-based ligands
Pre-Symposium ICCC, Hong Kong, July 17-18, 2014.

142 Novel families of carbon- and boron-based ligands
41th International Conference on Coordination Chemistry, Singapore, July 19-24, 2014.

143 Beaucoup de carbenes et un peu d'or
Symposium in honor of Max Malacria, Paris, October 10, 2014.

144 Stable carbenes for the activation of small molecules
Münster-Toronto International Research Training Program Openning Symposium, Munster, October 11, 2014.

145* Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
French-Chinese Conference on Green Chemistry, Shanghai (China), November 5-7, 2014.

146* Activation of P_4 and preparation of novel types of phosphorus species
1st International Conference on Sustainable Phosphorus Chemistry, Florence (Italy), December 3-5, 2014.

147* Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Gordon Stone Symposium, Baylor University (Texas), May 20-21, 2015.

148* Heteroatoms in their lowest coordination and oxidation states
11th International Conference on Heteraotom Chemistry (ICHAC-11), Caen (France), June 14-19 2015.

149* Stable carbenes and related species: Powerful tools in organic and organometallic chemistry
14th Gif Symposium, Paris (France), June 18-19, 2015.

150* Stable singlet carbenes for the stabilization of highly reactive transition metal complexes
5th Asian Conference on Coordination Chemistry (ACCC5), Hong Kong, July 12-16, 2015.

151* Nucleophilic boron derivatives, stable phosphinidenes and other main group species
14th International Symposium on Inorganic Ring Systems (IRIS-14), Regensburg (Germany), July 26-31, 2015.

152* Stable carbenes and related species: Powerful tools in organic and organometallic chemistry
European Symposium on Organic Reactivity (ESOC 2015), Kiel (Germany), August 30 - September 04, 2015

153 Isolation of highly reactive organic, inorganic and organometallic species
Symposium in Honour of Professor Hahn 60th birthday, Munster (Germany), October 16, 2015

154 Synthesis of Highly Reactive Inorganic Monomers
Zing Conference on Inorganic Polymers, Carlsbad (USA), February 12-14, 2016

155 Stable carbenes: Powerful tools in organic and organometallic chemistry
3rd Organic Chemistry Frontiers International Symposium (Oxford, UK), March 1, 2016

156 Room temperature stable phosphinidenes and related species
251st ACS National Meeting & Exposition, San Diego, CA (USA), March 12-17, 2016.

157 Isolation of Species Hitherto Believed to Be Only Transient Intermediates
Fujihara Seminar-70, Fukuoka (Japan), April 17-21, 2016

158 Stable carbenes and related species: Powerful tools in organic chemistry
Inorganic Gordon Conference, Biddeford ME (USA), June 19-24, 2016

159 Isolation of catalytically active species of the CuAAC reaction and consequences
42nd International Conference on Coordination Chemistry, Brest (France), July 3-8, 2016

160* Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
SISC, Singapore, July 15, 2016

161* Isolation of catalytically active species hitherto believed to be only transient intermediates and consequences
27th International Conference on Organometallic Chemistry, Melbourne (Australia), July 17-22, 2016

162 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Didier Bourissou CNRS Silver Medal Symposium, Toulouse (France), October 19, 2016

163* Coordination chemistry and catalysis with novel types of carbenes
The 1st Symposium of Metal-Carbene Consortium, Hong Kong, December 1-2, 2016

164 Stable carbenes and related main group species as powerful tools.
Luojia Symposium, Wuhan University (China), April 18, 2017

165 Stable carbenes as powerful tools in organic and organometallic chemistry
4th Organic Chemistry Frontiers International Symposium, Kunming (China), April 21-22, 2017

166 Stable carbenes and main group element carbenoids.
RSC Inorganic Synthesis Symposium, Oxford (UK), April 26, 2017

167 Novel carbenes and related species in organometallic chemistry
International Symposium on Olefin Metathesis and Related Chemistry (ISOM 22), Zurich (Switzerland), July 9-12, 2017

168 Stable carbenes and related species as powerful tools in organometallic chemistry
Organometallic Gordon Conference, Newport (USA), July 9-14, 2017

169 Stable carbenes and related species as powerful tools in inorganic chemistry
XXVI Congresso Nazionale della Società Chimica Italiana, Paestum (Italy), September 10-14, 2017

170 Back to main group chemistry
50 Years of LHFA Symposium, Toulouse (France), September 22, 2017

171 Stable carbenes and related species as powerful tools
1st Xi'an symposium, Xi'an (China) October 27, 2017

172 Stable carbenes as powerful ligands for transition metal catalysts and maybe as catalysts on their own right.
1st Solvay China Conference, Shanghai (China) November 1st, 2017

173 Organic mixed valence compounds and Kekulé diradicaloids derived from CAACs
255th ACS National Meeting & Exposition, New Orleans, LU (USA), March 18-22, 2018.

174 Stable carbenes and related species as powerful tools
New Adventures in Physical (In)Organic Chemistry" Symposium, Amsterdam (Netherlands) April 9, 2018.

175 Novel stable carbenes and their applications
2nd Symposium of Metal-Carbene Consortium, Beijing (China) June 7-9, 2018.

176 Stable carbenes: 30 years after their discovery.
1st University of San Diego Summer Chemistry Symposium, San Diego, July 18, 2018.

177 Carbenes as powerful ligands for transition metal catalysts and as small molecule activators on their own rights
The 2018 Department of Energy/Basic Energy Sciences/Catalysis Science PI Meeting. (Anapolis, Maryland) July 29-31, 2018.

178* Stable carbenes and related species as powerful tools
Physical Organic Chemistry (POC-29) (Tokyo, Japan) September 6-9, 2018.

179 Carbenes: From laboratory curiosities to bulk chemicals
1st Stable Carbene Symposium (Toulouse, France) November 30, 2018.

180 Tandem Copper Hydride-Lewis Pair Catalyzed Reduction of Carbon Dioxide and metal-free carbene carbonylation reactions
102nd Canadian Chemistry Conference and Exhibition (Québec City, Canada), June 03-07, 2019

181* Stable carbenes, phopshinidenes and borylenes
13th International Conference on Heteraotom Chemistry (ICHAC-13), Prague (Czech Republic)), June 30-July 5, 2019.

182 Carbenes as powerful transition metal surrogates
258th ACS National Meeting & Exposition, San Diego, CA (USA), August 25-29, 2019.

183 Stable carbenes and related species as powerful tools
2nd Xi'an symposium, Xi'an (China) September 6, 2019

184 Carbenes as powerful transition metal surrogates
124th General Meeting of the Korean Chemical Society, Changwon, (South Korea), October 16-18, 2019.

185* Carbenes as powerful transition metal surrogates
The 1st Mechanism and Synthesis Symposium (MASS), Beijing, (China), October 21-23, 2019.

186* Carbenes: From laboratory curiosities to bulk chemicals
13th National Conference on Physical Organic Chemistry (NCPOC), Nanchang, (China), October 25-26, 2019.

187* Boron, Silicon and Phosphorus Analogues of Carbenes
International Conference on Phosphorus, Boron and Silicon (PBSi 2019), Rome, (Italy), December 2-3, 2019.

188* Carbenes as powerful transition metal surrogates
Third International Symposium on Metal Carbenes and Nitrenes, San Antonio, Texas (USA), February 5-7, 2020.

189 Carbenes as powerful transition metal surrogates
ACS Publications Symposium "The Power of Chemical Transformations", Hong Kong, May 20-21, 2021 (Remote)

190 Carbenes as powerful transition metal surrogates
French-Chinese Conference on Green Chemistry, Lyon (France), October 25-28, 2021

191 Mesoionic Carbene-Breslow Intermediates as Super Electron Donors: Application to the Metal-Free Arylacylation of Alkenes
Main group catalysis webinar, Cell Press, November 2, 2021 (Remote)

192 Stable carbenes and their applications
Chimie et agriculture durable, Paris (France), November 10, 2021.

193 Carbenes as Powerful Transition-Metal Surrogates
ACS National Meeting & Exposition, San Diego, CA (USA), March 20-24, 2022.

194 Carbenes as Powerful Transition-Metal Surrogates
Virtual 5th International Conference on Organometallics and Catalysis (OM&CAT-5), Hong Kong, June 12-15, 2022.

195* Carbenes as Powerful Transition-Metal Surrogates
17th Belgian Organic Synthesis Symposium (BOSS XVII), Namur (Belgium), July 3-8, 2022.

196 Carbon with 6, 5 and Possibly 4 Electrons Around (*web*)
25th IUPAC Conference on Physical Organic Chemistry (ICPOC25), Hiroshima (Japan), July 5-10, 2022.

197 Carbon with 6, 5 and Possibly 4 Electrons Around
29th International Conference on Organometallic Chemistry (ICOMC-2022), Prague (Czech Republic), July 17-22, 2022.

198 Carbon with 6, 5 and possibly 4 electrons around
ACS National Meeting & Exposition, Chicago, IL (USA), August 21-25, 2022.

199 Carbenes as precious metal surrogates
HIAS Symposium & RESURGE Workshop, College Station, TX (USA), October 13-14, 2022.

200 Undressing Carbon
ACS National Meeting & Exposition, Indianapolis, IN (USA), March 26-30, 2023.

201 Mesoionic Carbenes as Powerful Organocatalysts
ACS National Meeting & Exposition, Indianapolis, IN (USA), March 26-30, 2023.

202 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
International Research Training School Toronto-Munster Symposium, Munster (Germany), April 27-28, 2023.

203 Can a free carbene do the job of a transition metal?
4th International Symposium on Carbene and Nitrene Chemistry, Amsterdam (Netherland), July 25-28, 2023.

204 Undressing carbon
755 Heraeus Seminar: Solvatation Chemistry and Reactive intermediates, Bad Honnef (Germany), September 17-23, 2023

205* Transition metal like behavior of phosphorus
International Conference on Phosphorus Chemistry (ICPC24), Ningbo (China), October 12-16, 2023.

206* Carbenes as Powerful Transition-Metal Surrogates
International Carbene Symposium, POSTECH Pohang (Korea), January 22-24, 2024.

207 Can Carbon Compete with Boron?
ACS National Meeting & Exposition, New Orleans, LA (USA), March 17-21, 2024.

At Companies (day/month/year)

1-2 Phosphonitriles and cyclodiphosphazenes
Ethyl Corporation, Baton Rouge-Louisiana (USA), 25/9/1985
Stauffer Chemical Company, Dobbs Ferry-New York (USA), 4/10/1985

3 Phospholipids : Structural Analogs of Platelet Activating Factor
Monsanto Company, St. Louis-Missouri (USA), 28/9/1985

4 Nouveaux synthons en chimie hétérocyclique
Etablissements Pierre Fabre Médicaments, Castres (France), 10/2/1988

5 Stabilisation d'espèces hautement réactives : leur utilisation en synthèse organique
SNPE, Vert le Petit (France), 25/10/1988

6 Les éléments lourds principaux en chimie organique.
Sanofi Recherche, Toulouse (France), 21/11/1989

7 Carbènes et nitrilimines : de la curiosité de laboratoire à l'outil de synthèse
Rhone-Poulenc, Lyon - St Fons (France), 14/6/1990

8 Electron deficient species: from laboratory curiosities to synthetic tools
BASF, Ludwigshafen (Germany), 4/9/1990

9 Use of heavier main group elements for stabilizing highly reactive organic species
Du Pont Experimental Station, Wilmington (USA), 3/9/1991

10 Main group elements are useful
ARCO Chemical Co., Newton Square (USA), 4/9/1991

11 Les nitrilimines
Flamel Technologies, Lyon (France), 5/11/1991

12-13 Stable carbenes, nitrilimines and diazocumulenes : powerful building blocks for heterocyclic synthesis
Sumitomo Chem. Co., Takarazuka (Japan), 18/1/1992
Mitsui Petrochem. Co., Hiroshima (Japan), 22/1/1992

14-15 New results in polyphosphazene chemistry and potential building blocks for non linear-optic materials
Nippon Soda Co., Tokyo (Japan), 28/1/1992
Idemitsu Petrochemical Co., Tokyo (Japan), 30/1/1992

16 Intermédiaires réactionnels stables : de la curiosité de laboratoire à l'outil de synthèse
Groupe Fournier, Dijon (France), 10/6/1992

17 New aspects of the chemistry of azido and diazo groups: building blocks for original heterocycles
Sankyo Co. LTD, Tokyo (Japan), 14/11/94

18 Stable carbenes and nitrilimines as a source of new heterocycles
Takeda Chemical Industries, LTD, Osaka (Japan), 9/11/94

19 Les éléments lourds principaux. Applications en synthèse organique
Sanofi, Toulouse, 29/05/96

20 Nouveaux outils en synthèse organique
Rhône-Poulenc, Paris (France), 28/10/97

21 New aspects of the chemistry of a-silyldiazo compounds
Dow Corning Asia, Tokyo (Japan), 5/12/97

22 New stable radicals and carbenes
Procter and Gamble, Cincinnati (USA), 14/01/98

23 New progress in phosphorus chemistry
Monsanto Company, Saint Louis (USA), 15/01/98

24 New polymerization catalysts
ICI, Bruxelles (Belgium), 11/02/98

25 New building blocks for heterocyclic synthesis and biocompatible polymers as drug delivery systems
Otsuka Pharmaceutical Co. Ltd, Tsukuba (Japan), 16/10/99

26 New Families of Stable Cyclic Carbenes for the Preparation of Low Ligated Transition Metals, and Highly Active Catalysts. Can a Carbene do the Job of a Metal?
The Dow Chemical Company (Midland, USA) May 8, 2007

27 What is new with carbenes?
Rhodia Inc (Bristol, USA) October 2, 2007

28 Novel families of carbon ligands, novel catalytic reactions
Materia, Pasadena, June 11, 2010

29 Novel families of carbon- and boron-based ligands, novel catalytic reactions
Rhodia Asia Research Center, Shanghai (China) September 20, 2011

30 Stable Carbenes and Related Species: Powerful Tools in Organic and Organometallic Chemistry
Genentech Research and Early Development (gRED), San Francisco (USA) November 6, 2015

31 Stable Carbenes and Related Species: Powerful Tools in Organic and Organometallic Chemistry
Umicore AG, Frankfurt (Germany) September 8, 2017

32 Carbenes as metal surrogates
Sovay Research Center, Lyon (France) October 27, 2021

At Universities (day/month/year)

1-3 Curtius rearrangement in organometallic series : a route to new hybridized species
University of Durham, Durham (UK), 15/11/1982
University of Leicester, Leicester (UK), 16/11/1982
University of Sussex, Brighton (UK), 18/11/1982

4-9 Unusually hybridized silicon, germanium and phosphorus species
Louisiana State University, Baton Rouge-Louisiana (USA), 11/2/1983
North Texas State University, Denton-Texas (USA), 14/2/1983
San Diego State University, San Diego-California (USA), 17/2/1983
University of Southern California, Los Angeles-California (USA), 18/2/1983
California State University, Los Angeles-California (USA), 23/2/1983
University of California Los Angeles, Los Angeles-California (USA), 24/2/1983

10-14 Photochemical behaviour of phosphorus azides
Duke University, Durham-North Carolina (USA), 7/2/1983
University of Texas, Austin-Texas (USA), 9/2/1983
Texas Christian University, Forth-Worth-Texas (USA), 15/2/1983
University of Nevada, Reno-Nevada (USA), 25/2/1983
University of Utah, Salt Lake City-Utah (USA), 29/2/1983

15 Rearrangements in silicon and germanium series
University of Wisconsin, Madison-Wisconsin (USA), 1/6/1983

16 Réarrangements thermiques et photochimiques de composés phosphorés et siliciés
Université de Montpellier II (France), 10/3/1984

17 Rearrangement of heavier main group element azides
"Anorganisch-Chemisches Kolloquium", Aachen (Germany), 21/1/1985

18-22 Phosphorus nitrenes, phosphonitriles and phosphinidenes
Fakultät für Chemie, Bielefeld (Germany), 22/1/1985
Fachbereich Chemie, Kaiserslautern (Germany), 23/1/1985
Anorganisch-Chemisches Institut, Bonn (Germany), 25/1/1985
Organisch-Chemisches Institut, Heidelberg (Germany), 28/1/1985
Institut für Anorganische Chemie, Würzburg (Germany), 29/1/1985

23 The chemistry of the phosphorus-nitrogen triple bond
Institut für Anorganische und Analytische Chemie der Freie Universitat, Berlin (Germany), 24/1/1985

24-28 The Chemistry of double and triple bonded phosphorus compounds
The University of North Carolina, Chapel Hill-North Carolina (USA), 20/9/1985
The University of Utah, Salt Lake City-Utah (USA), 23/9/1985
Tulane University, New Orleans-Louisiana (USA), 26/9/1985
California Institute of Technology, Pasadena-California (USA), 30/9/1985
University of Massachusetts, Amherst-Massachusetts (USA), 2/10/1985

29-33 λ^5-phosphonitriles and λ^5-phosphaacetylenes
Fakultät für Chemie, Bielefeld (Germany), 4/7/1986
Institut für Anorganische Chemie, Göttingen (Germany), 7/7/1986
Fachbereich Chemie, Oldenburg (Germany), 8/7/1986
Institut für Anorganische Chemie, Regensburg (Germany), 10/7/1986
Technischen Universität München, Garching (Germany), 11/7/1986

34 Composés du phosphore triplement lié
Université de Strasbourg (France), 8/12/1986

35-41 The diazo group in carbon, phosphorus, sulfur and transition metal chemistry : new route to highly unsaturated organic and inorganic molecules
Philipps Universität, Marburg (Germany), 1/6/1987
Gmelin Institut, Frankfurt (Germany), 2/6/1987
Anorganisch-chemisches Institut, Bonn (Germany), 3/6/1987
Fachbereich Chemie, Essen (Germany), 4/6/1987
Vrije Universiteit, Amsterdam (Netherland), 9/6/1987
Institut für Anorganische Chemie, Frankfurt (Germany), 10/6/1987
Institut für Anorganische Chemie, München (Germany), 11/6/1987

42-45 Composés diazoïques α-hétéroatomiques
Université de Montpellier (France), 22/9/1987
Université de Rennes (France), 8/10/1987
Université de Nantes (France), 9/10/1987
Université de Bordeaux (France), 10/10/1987

46 Nitrènes et carbènes stabilisés
Université de Paris Sud, Orsay (France), 14/11/1987

47-50 New aspects of the chemistry of the diazo group.
University of Utah, Salt Lake City-Utah (USA), 26/5/1988
Queen's University, Kingston (Canada), 30/5/1988
Université de Montreal, Montreal (Canada), 31/5/1988
Université de Laval, Quebec (Canada), 1/6/1988

51 Carbenes : from transient intermediates to isolable compound
Technische Universität, München - Garching (Germany), 8/11/1988

52-54 Stable carbenes and nitrile-imines
Anorganisch Chemisches Institut, Saarbrucken (Germany), 30/5/1989
Fachbereich Chemie, Kaiserslautern (Germany), 1/6/1989
Max Planck Institut, Mülheim/Ruhr (Germany), 3/6/1989

55-59 Use of heavier main group element for stabilizing highly reactive organic molecules
Institut für Anorganische Chemie, Karlsruhe (Germany), 24/11/1989
Westfalische Wilhelms Universität, Münster (Germany), 27/11/1989
Carolo Wilhelmina Universität, Braunschweig (Germany), 29/11/1989
Institut für Anorganische Chemie, Göttingen (Germany), 30/11/1989

Institut für Organische Chemie, Erlangen-Nürnberg (Germany), 1/12/1989

60 Les éléments principaux en chimie organique
Université de Caen (France), 22/3/1990

61-62 Heteroatoms and highly reactive organic species
PennState, Pennsylvania (USA), 23/8/1991
University of Pennsylvania, Philadelphia (USA), 30/8/1991

63 Stable carbenes
Université d'Aix-Marseille, Marseille (France), 19/10/1991

64-69 Diazo compounds and their isomers
Institut für Anorganische Chemie, Bonn (Germany), 11/11/1991
Organisch-Chemisches Institut, Heidelberg (Germany), 12/11/1991
Fachbereich Chemie, Tübingen (Germany), 14/11/1991
Fakultät für Chemie, Freibourg (Germany), 15/11/1991
Anorganisch-Chemisches Institut, Aachen (Germany), 18/11/1991
Fakultät für Chemie, Bielefeld (Germany), 19/11/1991

70 Triple-bonded heavier main group elements
Frei Universität, Berlin (Germany), 21/11/1991

71 Let us play with the coordination states of phosphorus
"Graduiertenkolleg", Berlin (Germany), 22/11/1991

72-73 New types of low coordinated phosphorus compounds
Hiroshima University, Hiroshima (Japan), 21/1/1992
Tohoku University, Sendai (Japan), 27/1/1992

74-76 New aspects of the diazo group in organic and inorganic chemistry
Nat. Chem. Lab. Ind., Tsukuba (Japan), 14/1/1992
Mie University, Tsu (Japan), 23/11/1992
Tsukuba University, Tsukuba (Japan), 24/1/1992

77-78 New stable carbenes
ETH, Zürich (Switzerland), 3/6/92
Université de Lausanne (Switzerland), 4/6/92

79 Espèces hautement réactives : de la caractérisation en matrice à l'outil de synthèse à température ambiante
Université Joseph Fourier, Grenoble (France), 14/1/93

80 Le phosphore dans les systèmes π-liés : liaisons multiples, aromaticité et non aromaticité
Université de Montpellier, (France), 18/3/93

81 Aromaticity and anti-aromaticity in organic and inorganic ring systems
Institut fur Anorganische Chemie, Göttingen (Germany), 30/11/1993

82 Nouvelles perspectives dans la chimie des azotures et des composés diazoïques
Ecole Normale Supérieure, Paris (France), 7/12/93

83 Nouveaux ligands phosphorés
Université de Rennes (France), 20/12/93

84 Taming reactive intermediates
Ecole Polytechnique de Zürich (Switzerland), 7/02/94

85 New phosphorus ylides
Kaiserslautern University (Germany), 16/9/94

86-88 Playing tricks with highly reactive intermediates. How to make them stable?
Bergen University (Norway), 10/10/94
Trondheim University (Norway), 12/10/94
Oslo University (Norway), 14/10/94

89-96 Synthesis and reactivity of 4-π electron 4-membered heterocycles featuring main group element(s): antiaromatic inorganic systems?
Ecole Polytechnique de Zürich, (Switzerland), 20/1/95
Marburg University (Germany), 23/1/95
Göttingen University (Germany), 25/1/95
Berlin University (Germany), 27/1/95
Böchum University (Germany), 30/1/95
Giessen University (Germany), 31/1/95
Utrecht University (Netherland), 2/2/95
Université de Strasbourg (France), 6/2/95

97-98 The trimethylsilyl diazomethane.
Ljubljana University (Slovenia), 22/3/96
CNR Bologne (Italy), 25/3/96

99-100 New types of 4-π-electron 4-membered rings
Bologne University (Italy), 26/3/96
Florence University (Italy), 27/3/96

101 Cycles à 3 ou 4 chaînons et 2, 3, 4 ou 6 électrons-π
Université de Paris VI (France), 25/11/96

102 Que peut-on apprendre des molécules exotiques ?
Académie des Sciences, Paris (France) 4/11/96

103 Diazo compounds in Silicon Chemisry
National Institute of Materials and Chemical Research, Tsukuba (Japan), 3/12/96

104-105 New stable radicals, diradicals and carbenes
Tokyo University (Japan), 4/12/96
Kyoto University (Japan), 9/12/96

106-109 New aspects of phosphorus chemistry
Shiba University (Japan), 6/12/96
Kyoto University (Japan), 10/12/96
Osaka University (Japan), 11/12/96
Tsukuba University (Japan), 16/12/96

110 Molécules contre nature : de la curiosité intellectuelle aux applications
Université de Bourgogne et Franche-Comté, Dijon (France), 13/05/97

111 From exotic molecules to applied chemistry
University of Southern California, Los Angeles (USA), 15/7/97

112 New stable radicals, diradicals and carbenes
Bielefeld University (Germany), 13/10/97

113 The use of main group elements for stabilizing highly reactive organic species
Münster University (Germany), 14/10/97

114 New stable radicals, diradicals and carbenes
Wurzburg University (Germany), 15/10/97

115 New stable radicals, diradicals and carbenes
Konstanz University (Germany), 16/10/97

116 The use of main group elements for stabilizing highly reactive organic species
Bonn University (Germany), 17/10/97

117 The use of main group elements for stabilizing highly reactive organic species
Université de Bâle (Switzerland), 27/11/97

118 New stable radicals, diradicals and carbenes
Munich University (Germany), 28/11/97

119 The use of main group elements for stabilizing highly reactive organic species
Mainz University (Germany), 01/12/97

120 New stable radicals, diradicals and carbenes
Karlsruhe University (Germany), 02/12/97

121 From exotic molecules to applied chemistry (group 13 to 15 elements)
Braunschweigh University (Germany), 03/12/97

122 Le phosphore, un élément très versatile
Université de Genève (Switzerland), 9/03/98

123 Aromaticité et anti-aromaticité en chimie du phosphore
Université de Genève (Switzerland), 10/03/98

124 Nouveaux cations et radicaux en chimie des hétéroéléments
Université de Genève (Switzerland), 11/03/98

125 Des molécules exotiques aux applications
Université de Genève (Switzerland), 12/03/98

126 Les carbènes stables
Université de Lausanne (Switzerland), 13/03/98

127 Aromaticity and antiaromaticity in phosphorus chemistry
ETH Zürich (Switzerland), 02/07/98

128 Stable carbenes: are they useful?
ETH Zürich (Switzerland), 03/07/98

129 New stable cations, radicals and diradicals
ETH Zürich (Switzerland), 06/07/98

130 What can we do with diaminoamide ligands?
ETH Zürich (Switzerland), 07/07/98

131 Phosphorus is useful
ETH Zürich (Switzerland), 25/08/98

132 Les éléments lourds principaux: des outils puissants
Université d'Orsay (France), 22/09/98

133 Sometimes it's phosphorus, not carbon chemistry that leads the way
Chicago University, Chicago (USA), 09/11/98

134 Are stable carbenes genuine carbenes ? But what is a carbene anyway?
Chicago University, Chicago (USA), 11/11/98

135 Biocompatible materials from super Lewis acid polymerization catalysts
Chicago University, Chicago (USA), 18/11/98

136 The importance of main group elements
University of Southern California, Los Angeles (USA), 19/11/98

137-141 Les éléments lourds principaux : des outils puissants
Université de Grenoble (France), 03/02/99
Université de Lyon (France), 04/02/99
Université de Marseille (France), 18/02/99
Université de Strasbourg (France), 12/03/99
Université de Rennes (France), 14/06/99

142-154 New types of bonding in main group element chemistry
Stable carbenes and related species

From exotic molecules to applied chemistry
Main group elements are useful
Tohoku University (Japan), 26/09/99
Kyushu University (Japan), 30/09/99
Hiroshima University (Japan), 2/10/99
Okayama University (Japan), 3/10/99
Kyoto University (Japan), 6/10/99
Kyoto Institute for Material Sciences (Japan), 7/10/99
Mie University (Japan), 8/10/99
Nara University (Japan), 10/10/99
Nagoya University (Japan), 11/10/99
Tokyo University (Japan), 13/10/99
Chiba University (Japan), 14/10/99
Tsukuba University (Japan), 15/10/99
National Institute of Materials & Chemical Research, Tsukuba (Japan), 16/10/99

155-156 Main group chemistry : from exotic molecules to applied chemistry
University of Pennsylvania, Philadelphia (USA), 23/03/00
University of California Riverside, Riverside (USA), 25/03/00

157-158 Exploiting the phosphorus trick
University of Castilla de la Mancha (Spain), 08/11/00
University of Sevilla (Spain), 09/11/00

159 Liaisons à un électron et différence entre liaison à deux électrons et biradicaux singulets
Institut de Recherche sur les Systèmes Atomiques Moléculaires Complexes, Université Paul Sabatier (France), 05/03/01

160 What is new in main group chemistry
University of California, Davis (USA), 04/09/02

161-162 Chemistry with and without main group element : what a difference !
University of California, Berkeley (USA), 06/09/02
University of Texas, El Paso (USA), 01/11/02

163 Chemistry with and without main group element : what a difference !
University of California, Los Angeles (USA), 10/04/03

164 Stable carbenes, diradicals and tetraradicals
Texas A&M University, College Station (USA), 10/12/2003

165 Stable carbenes, diradicals and tetraradicals
Rice University, Houston (USA), 11/12/2003

166 Stable Carbenes and Diradicals
Academie Sinica, Taipei (Taiwan) 5/12/2004

167 Chemistry with and without main group element: what a difference!
Taiwan National University, Taipei (Taiwan) 5/13/2004

168 Carbenes: Emerging Ligands for Catalysis
National Tsing Hua University, Tsing Hua (Taiwan) 5/14/2004

169 Carbenes: Emerging Ligands for Catalysis
Tokyo Institute of Technology, Tokyo (Japan) 5/17/2004

170 Stable carbenes as ligands for transition metals, and stable diradicals as building blocks for materials.
"MIT/Harvard Inorganic Seminar Series" Boston (USA) 11/17-18/2004.

171 Stable carbenes as ligands for transition metals, and stable diradicals as building blocks for materials.
"Lacan Lecture" University of Montreal (Canada) 11/19/2004.

172 Stable carbenes as ligands for transition metals, and stable diradicals as building blocks for materials.
CALTECH (USA) 11/24/2004.

173 Stable singlet carbenes and diradicals.
Rutgers University (USA) 6/29/2005

174 Stable carbenes and diradicals: From curiosities to powerful tools.
Tokyo University (Japan) October 26, 2005

175 New Families of Stable Cyclic Carbenes for the Preparation of Highly Active Catalysts and Low Ligated transition metals
Nagoya University (Japan) October 27, 2005.

176 Stable carbenes and diradicals: From curiosities to powerful tools.
Amsterdam University (Netherland) October 31, 2005

177 New Families of Stable Cyclic Carbenes for the Preparation of Highly Active Catalysts and Low Ligated transition metals
Lectures in Modern Chemistry Series, University of British Columbia (Canada) November 28, 2006

178 Stable carbenes and diradicals: From curiosities to powerful tools
University of Edmonton (Canada) November 30, 2006

179 New Families of Stable Cyclic Carbenes for the Preparation of Highly Active Catalysts and Low Ligated transition metals
University of Calgary (Canada) December 1, 2006

180 Stable carbenes can help, and even do the job of transition metals
The University of Edinburgh (Scotland) May 29, 2007

181 New Families of Stable Cyclic Carbenes for the Preparation of Low Ligated Transition Metals, and Highly Active Catalysts. Can a Carbene do the Job of a Metal?
The University of Durham (England) May 30, 2007

182-184 New trends in Group 13-15 chemistry
The University of StAndrews (Scotland) June 1 and 4, 2007

185 Stable carbenes can help, and even do the job of transition metals
UC San diego (USA) October 12, 2007

186-188 The use of stable carbenes and related ligands in catalysis: New developments (cancelled)
Michigan State (USA) April 2, 2008
University of Michigan (USA) April 3, 2008
University of Toledo (USA) April 4, 2008

189 Stable carbenes and bent-allenes as ligands for transition metal catalysts
UC San diego (USA) June 20, 2008

190 "New families of carbon-based ligands for transition metal catalysts"
Berlin University (Germany) October 22, 2008

191 Stable Neutral Divalent Carbon Compounds with One or Two Lone Pairs of Electrons as Strong Donor Ligands for transition metal catalysts.
Bochum University (Germany) October 23, 2008

192 New families of carbon-based ligands, novel catalytic reactions
UC Irvine (USA) April 3, 2009

193 Stable Neutral Divalent Carbon Compounds with One or Two Lone Pairs of Electrons as Strong Donor Ligands for transition metal catalysts.
UC Santa Cruz (USA) April 13, 2009

194 Novel families of ligands, novel catalytic reactions.
The Scripps Research Institute, La Jolla (CA), April 24, 2009.

195 Novel families of ligands, novel catalytic reactions (cancelled)
University of Porto Rico, May 1, 2009.

196 Novel families of carbon ligands, novel catalytic reactions
University of Sussex, September 4, 2009 (UK)

197 Novel families of carbon ligands, novel catalytic reactions
University of Strathclyde, September 9, 2009 (UK)

198 Novel families of carbon ligands, novel catalytic reactions
Tokyo Institute of Technology, Tokyo Nov 7, 2009 (Japan)

199 Novel families of carbon ligands, novel catalytic reactions
UC Santa Barbara, January 14, 2010 (USA)

200 Bending the rules
The University of Alabama, Tuscaloosa (USA) March 25, 2010

201 Novel stable non-Arduengo carbenes and related species
The University of Alabama, Tuscaloosa (USA) March 26, 2010

202 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Aachen (Germany) April 13, 2010

203 Novel families of stable carbon-based L ligands: Activation of small molecules and catalysis.
Technical University of Munich (Germany) April 26, 2010

204 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Toronto (Canada) September 17, 2010

205 Novel families of carbon ligands, novel catalytic reactions
University of Regensburg (Germany) October 25, 2010

206 Novel families of carbon ligands, novel catalytic reactions
University of Liepzig (Germany) October 27, 2010

207 Novel families of carbon ligands, novel catalytic reactions
University of Wurzburg (Germany) October 28, 2010

208 Novel stable carbenes and related species: Activation of small molecules and catalysis.
University of Heidelberg (Germany) October 29, 2010

209 Metal-free activation of small molecules
University of Braunsweig (Germany) November 1, 2010

210 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Erlangen (Germany) November 2, 2010

211 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Marburg (Germany) November 3, 2010

212 Novel stable carbenes and related species: Activation of small molecules and catalysis.
Max Plack Institute, Mulheim (Germany) November 5, 2010

213 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Gottingen (Germany) November 5, 2010

214 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
Rutgers University (USA) March 22, 2011

215 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
Columbia University (USA) March 24, 2011

216 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
Argonne National Laboratory (USA) April 21, 2011

217 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Chicago (USA) April 22, 2011

218 Novel families of carbon- and boron-based ligands, novel catalytic reactions
Academy of Sciences, Beijing (China) September 13, 2011

219 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
Wuhan University, Wuhan (China) September 16, 2011

220 Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
Shanghai Institute of Organic Chemistry, Chinese Academic Science, Shanghai (China) September 19, 2011

221-223 New types of bonding in Main Group Chemistry
Which carbenes and related species are stable?
Stable carbenes and related species: Powerful tools in organic and inorganic chemistry
University of Western Ontario, London, Ontario (Canada) October 17-19, 2011

224 Novel families of carbon- and boron-based ligands, novel catalytic reactions
Princeton University (USA) October 20, 2011

225 Challenging the dogma
University of California, San Diego (USA) November 21, 2011

226 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
MIT, Boston (USA) April 4, 2012

227 Novel families of carbon- and boron-based ligands, novel catalytic reactions
Indiana University, Bloomington (USA) April 25, 2012

228-230 How can Carbenes and related species be stable?
Stable singlet carbenes as ligands for Transition metal catalysts and as mimics for transition metal centers
Mesoionic carbenes: A new generation of stable carbon-based ligands
Frontiers in Chemical Research Lectureship, Texas A&M University, College Station (USA) October 15-17, 2012

231 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Penn State (Pennsylvania) May 30, 2013

232 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry (MacRae Lecture).
Queen's University, Kingston (Canada) June 21, 2013

233 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Wisconsin, Madison (USA) September 18, 2013

234 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Oxford (England) October 14, 2013

235-238 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Hong Kong, October 28, 2013
City University Hong Kong, October 30
Shanghai Institute of Organic Chemistry, Chinese Academic Science, Shanghai (China), October 31, 2013
Fudan University, Shanghai (China), November 1, 2013

239 Carbon-, nitrogen- and boron-based ligands. Applications in catalysis
ETH Zurich (Switzerland) November 19, 2013

240 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Lyon (France) November 21, 2013

241 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Tokyo (Japan) March 31, 2014

242 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
National University Singapore (Singapore) July 23, 2014

243 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Northwestern University, December 10, 2014

244 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
CSU Northridge, April 1, 2015

245-249 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
Basel University (Switzerland), April 13, 2015
University of Fribourg (Switzerland), April 14, 2015
EPFL Lausanne (Switzerland), April 15, 2015
University of Geneva (Switzerland), April 16, 2015
ETH Zurich (Switzerland), April 17, 2015

250 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Francfurt (Germany), October 14, 2015

251 Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry
University of Oldenburg (Germany), October 15, 2015

252 Stable carbenes as Powerful tools in organic, inorganic and organometallic chemistry
Inaugural Anton Burg lectureship, University of Southern California (USA), October 30, 2015

253 Stable carbenes and related species: Powerful tools in organic and organometallic chemistry
University of California Los Angeles (USA), January 28, 2016

254 From useless to useful stable carbenes
University of Rochester (USA), May 2, 2016

255 CAACs as powerful tools in organic, inorganic and organometallic chemistry
University of Rochester (USA), May 3, 2016

256 The novel generation of stable carbenes and related species
University of Rochester (USA), May 4, 2016

257 CAACs as powerful tools in organic, inorganic and organometallic chemistry
Cornell University (USA), May 5, 2016

258 The novel generation of stable carbenes and related species
Cornell University (USA), May 6, 2016

259 Stable carbenes as powerful tools in organic, inorganic and organometallic chemistry
University of Strathclyde, Glasgow (UK), October 12, 2016

260 Stable carbenes as powerful tools in organic, inorganic and organometallic chemistry
Cardiff University (UK), October 14, 2016

261 Stable carbenes as powerful tools in organic and organometallic chemistry
Strasbourg University (France), November 28, 2016

262 Stable carbenes as powerful tools in organic, main group and organometallic chemistry
Technion City, Haifa, Israel, April 24, 2017

263 Stable carbenes as powerful tools in organic, main group and organometallic chemistry
GDCh-colloquium in Berlin, Germany, September 14, 2017

264 Stable carbenes as powerful tools in organic, main group and organometallic chemistry
University of North Carolina, Chapel Hill, September 26, 2017

265 Stable carbenes as powerful tools in organic, main group and organometallic chemistry
University of Georgia, Athens September 28, 2017

266 Stable carbenes and related species as powerful tools
Tsinghua University, Beijing, China, October 25, 2017

267-272 Stable carbenes and related species as powerful tools in organic, inorganic and organometallic chemistry
Universidad de Sevilla, Sevella, Spain, December 14, 2017
Universidad de Huelva, Huelva, Spain, December 15, 2017
Universidad de Castilla La Mancha, Ciudad Real, Spain, December 18, 2017
Universidad de Alcala de Henares, Alcala de Henares, Spain, December 19, 2017
Universidad de Zaragoza, Zaragoza, Spain, December 20, 2017
ICIQ, Tarragona, Spain, December 21, 2017

273 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
University of Utah, Salt Lake City, USA, March 29, 2018

274-276 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
University of Toronto, Toronto, Canada, April 25, 2018
McMaster University, Hamilton, Canada, April 26, 2018
Brock University, St Catherines, Canada, April 27, 2018

277 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Wuhan Technical University, Wuhan, China, June 4, 2018

278 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Renmin University of China, Beijing, China, June 5, 2018

279 Stable carbenes: 30 years after their discovery.
Tsinghua University, Beijing, China, June 6, 2018

280 Novel stable carbenes and their applications in main group and transition metal chemistry
University of Regensburg, Regensburg, Germany, June 12, 2018

281 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
South University of Science and Technology of China, September 11, 2018

282-283 How to create novel chemical objects with very basic knowledge
Tsinghua University, Beijing, China, September 12 and 13, 2018

284 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Capital Normal University Beijing, China, September 14, 2018

285 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Stanford University, USA, October 14, 2018

286 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
The University of Hong Kong, November 19, 2018

287 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Sichuan University, Chengdu, China, November 22, 2018

288 Stable carbenes and related species as powerful tools in organic, organometallic, and inorganic chemistry
Nanjing University, Nanjing, China, November 23, 2018

289 Stable carbenes can do the job of metals
Ecole Polytechnique, Palaiseau, France, March 28, 2019

290-292 Stable carbenes as metal surrogates
Fudan University, Shanghai, China, September 2, 2019
Xiamen University, Xiamen, China, September 4, 2019

Nanjing University, Nanjing, China, September 9, 2019

293 Carbenes as transition metal surrogates
Neil Bartlett Memorial Lecture in Inorganic Chemistry at UC Berkeley, January 28, 2022

294 Stable carbenes as metal surrogates
Yale University, Silliman Lecture, March 28, 2022

296 Stable carbenes as metal surrogates
Boston University, Strem Lecture, March 29, 2022

297 Carbenes as transition metal surrogates
Aachen University, November 4, 2022

298 Carbenes as transition metal surrogates
Rice University, November 9, 2022

299 Carbenes as Powerful Transition-Metal Surrogates
Texas State University-San Marcos, March 6, 2023

300 Carbenes as Powerful Transition-Metal Surrogates
Texas A&M University, April 6, 2023

301 Carbenes as Powerful Transition-Metal Surrogates
Ningbo University (China), October 16, 2023

302 Carbenes as Powerful Transition-Metal Surrogates
Shanghai Institute of Organic Chemistry (China), October 17, 2023

303 Déshabiller le carbone. Pourquoi ?
University of Limoges (France), January 8, 2024

304 Carbenes as Powerful Transition-Metal Surrogates
Seoul National University (Korea), January 22, 2024

305 Low coordinated main group species
POSTECH at Pohang (Korea) January 25, 2024

306 Carbenes as Powerful Transition-Metal Surrogates
KAIST at Daejon (Korea) January 26, 2024

307 Carbenes as Powerful Transition-Metal Surrogates
Technical University Dresden (Germany), February 12, 2024

308 Carbenes as Powerful Transition-Metal Surrogates
University of Michigan (USA), April 8, 2024

309 Carbenes as Powerful Transition-Metal Surrogates
Bern University (Switzerland), May 6, 2024

310 Carbenes as Powerful Transition-Metal Surrogates
ETH Zurich (Switzerland), May 7, 2024

311 Low coordinated main group species
ETH Zurich (Switzerland), May 8, 2024

RESEARCH TRAINING

Ph.D. Degrees Conferred

1 *J. ANCELLE* : "Photolyse et thermolyse de composés organosiliciés et germaniés. Intermédiaires à double liaison métal-carbone" (juillet 80)

2 *A. BACEIREDO* : "Réarrangement photochimique d'azotures organométalliques" (mars 82)

3 *S. MAJID* : "Stabilité et réactivité particulières de composés organophosphorés induites par le substituant 2,4,6-tri-tert-butylphényle" (octobre 83)

4 *F. EL ANBA* : "Réarrangements de composés organométalliques du silicium, du germanium et du phosphore" (octobre 83)

5 *E. OCANDO-MAVAREZ* : "Phosphonitriles : Nouveaux synthons en chimie hétérocyclique" (Mars 88)

6 *G. SICARD* : "Analogie α,α' bis carbénoïdes - triple liaison" (juillet 88)

7 *A. IGAU* : "Utilisation du phosphore pour la stabilisation d'espèces à déficience électronique. Synthèse et réactivité d'un carbène stable" (juin 89)

8 *M. GRANIER* : "Synthèse, structure et réactivité de nitrilimines stables" (juillet 90)

9 *F. CASTAN* : "Apport du silicium et du phosphore dans la chimie des dérivés diazoïques et de leurs isomères nitrilimines " (septembre 91)

10 *H. ROLLAND* : "Polyphosphazènes à liaison Phosphore-Carbone" (octobre 91)

11 *J. M. SOTIROPOULOS* : "Les diazométhylènephosphoranes" (décembre 91)

12 *M.P. ARTHUR* : "Synthèse et réactivité de dérivés diazoïques et de nitrilimines α-borés" (juillet 92)

13 *M. SOLEILHAVOUP* : "Synthèse et réactivité de phosphanyl, thiophosphanyl et phosphonioyl carbènes" (juillet 93)

14 *G. VENEZIANI* : "Utilisation des isomères stannylés du diazométhane dans des réactions de transfert du fragment CN_2" (juin 94)

15 *E. BON* : "Utilisation de complexes amine - chlorure d'aluminium en synthèse organique" (octobre 94)

16 *N. DUBAU-ASSIBAT* : "Influence de la nature des substituants sur la stabilité relative des dérivés diazoïques et leus isomères structuraux" (juin 95)

17 *G. ALCARAZ* : “Espèces déficientes en électrons et cycles tendus α-phosphorés” (juin 95)

18 *Y. CANAC* : “Le cation diphosphirénium : un cycle à trois chaînons et deux électrons π- non aromatique (juillet 96)

19 *G. BOUHADIR* : “Réactivité du premier phosphazide cis stable et du phosphazène correspondant. Préparation de nouveaux composés onio du phosphore” (novembre 96)

20 *N. EMIG* : “Nouveaux catalyseurs pour la polymérisation d’hétérocycles : synthèse d’acides de Lewis du groupe 13 possédant des ligands tridentates diamido-amines” (juillet 1997)

21 *O. GUERRET* : Nouveaux ligands carbéniques : 1,2,4-triazolbis(ylidène) et 1,2,4-triazoliumylidène. Utilisation de ces ligands en chimie organométallique” (décembre 97)

22 *M. SANCHEZ* : “Hétérocycles insaturés à 4 chaînons possédant un atome de phosphore tétracoordiné (décembre 97)

23 *V. PIQUET* : “Influence de substituants phosphorés sur la réactivité de 3H-diazirines, nitrilimines et 2H-diazirines (décembre 97)

24 *D. BOURISSOU* : "Synthèse de nouvelles espèces phosphorées hautement réactives" (janvier 98)

25 *S. GOUMRI-MAGNET* : « Nouvelles utilisations de dérivés organophosphorés : les ylures de phosphore, des bases fortes non nucléophiles ; les phosphinocarbènes, de véritables synthons » (décembre 1998)

26 *J.-L. FAURE* : « Etude des nitrilimines en solution et utilisation de ligands bisamidoamines pour la synthèse de nouveaux catalyseurs de polymérisation » (décembre 98)

27 *H. N’GUYEN* : « Nouveaux catalyseurs à ligands diamidoamines : synthèse et utilisation pour la polymérisation d’hétérocycles » (juillet 99)

28 *C. BURON* : " Les diaminocarbènes : de nouveaux ligands pour les métaux de transition. Les phosphinocarbènes : synthèse des premiers alkyl- et arylcarbènes stables" (novembre 2000)

29 *T. KATO* : "Le phosphore en chimie des carbènes, des carbocations et des radicaux" (5 juillet 2001)

30 *A. DUMITRESCU* : "Basses valences en chimie du phosphore, de l'étain et du zinc : des espèces hautement réactives, des catalyseurs de polymérisation (12 novembre 2001)

31 *D. AMSALLEM* : "Implication du groupement (dialkylamino)phosphino dans la stabilisation et la réactivité de phosphinocarbènes et de phosphinoaldéhydes (14 novembre 2001)

32 *E. DESPAGNET* : "Phosphinocarbenes : modes de stabilisation, coordination (June 20, 2002)

33 *S. SOLE* : "Carbenes singlets stables : Migration 1,2 dans les carbenes hétérocycliques et carbenes a substituant spectateur (June 24, 2002)

34 *N. MERCERON-SAFFON* : "Nouveaux aminocarbènes *C*-phosphorés : synthèse, caractérisation et réactivité " (June 19, 2003).

35 *M. OTTO*: "Une nouvelle approche vers des carbenes stables et des cations cyclopentadienyles" (March, 26 2004)

36 *D. MARTIN* : "Rôle du phosphore dans la stabilisation des cations et des carbènes. Synthèse de nouveaux cumulènes organophosphorés" (September 24, 2004)

37 *X. CATTOEN* : "Amino-carbènes : réarrangements originaux, complexation" (July 8, 2004)

38 *C. LYON-SAUNIER* : "Synthese et reactivite de nouveaux phosphinocarbenes : Applications en synthese organique et catalyse organometallique (May 12, 2006)

39 *J. VIGNOLLE* "Approches de complexes carbeniques heterosubstitues originaux **"***N**ew routes to stable heterosubstituted carbenes and their use as ligands for transition metals"* (December 21, 2006)

40 *J.B BOURG* "Etudes de diradicaux heterocycliques" *"Studies of heterocyclic diradicals"* (April 23, 2007)

41 *M. SONG "*New synthetic routes to amino-carbenes and investigation of cyclic amino-phosphino-carbene (*P*-NHC) systems" (May 22, 2007)

42 *G. FUKS* "Etude de Diradicaux hétérocyclique" *"Heterocyclic Diradicals"* (November 7, 2007)

43 *V. LAVALLO* "From Alkyl(Amino) and Carbocyclic Carbenes to Bent Allenes: Synthesis, Reactivity, and Ligand Properties" (March 26, 2008)

44 *M. ASAY* "Ylides: Stabilization of Novel, Low Valent Carbon-Based Ligands with Applications in Catalysis" (February 6, 2009)

45 *G. KUCHENBEISER* "Reactivity of Bis(amino)cyclopropenylidenes (BACs) and Cyclic (Alkyl)(amino)carbenes (CAACs): Coordination Chemistry, Catalysis, and Small Molecule Activation" (August 2009)

46 *A. DEHOPE* "Synthesis of donor ligands and their applications in catalysis" (decembre 2010)

47 *O. BACK* "Stabilisation par les carbènes de fragments phosphorés paramagnétiques ou électro-déficients" (May 2011)

48 *G. UNG* "Design and Synthesis of Mesoionic carbenes" (September 2013)

49 *D. WEINBERGER* "Stabilization of Au(0), Cu(0) and Ag(0) complexes with cyclic (alkyl) (amino) carbenes (CAACs) and the progress towards neutral coinage metal clusters" (June 2014)

50 *M. R. ELLINGER* "Octet-defying molecules: Understanding the electronic properties of carbenes and isolation of a stable nitrene" (June 2014)

51 *D. RUIZ* "Stabilization of Highly Reactive Group 13 and 15 Species" (December 2015)

52 *J. MAHONEY* "Experimental and Theoretical Investigations into the Stabilization of Captodative (Amino)(Carboxy) Radicals" (January 2017)

53 *C. WEINSTEIN* "Development and Reactivity Studies of Highly Ambiphilic Carbenes" (February 2018)

54 *E. ROMERO* (USA) "Taming Carbene Copper(I)-Hydride Complexes" (December 2018)

55 *D. TOLENTINO* (USA) "Applications of Carbenes in Organometallic Chemistry" (July 2019)

56 *J. PELTIER* (USA) "Cyclic (alkyl)(amino)carbenes: from Replacing Metals to Metal Replacement (August 2020)

57 *G. P. JUNOR* (USA): "Oh, Where Electrons Will Go" (June 2021)

58 *S. YAZDANI* (Iran): "Rational Design of Ligands for Transition Metal Catalysis" (July 2021)

59 *F. VERMERSCH* (France): "The diverse nature of carbenes: impact of carbenes' structure on their reactivity" (July 2022)

59 *A. VIANNA* (USA): "Mesoionic Carbenes in Single Electron Transfer Reactions" (August 2022)

60 *V. T. WANG* (USA): "Reactivity Studies of Carbenes and the Development of a Novel Carbene" (August 2023)

61 *M. R. SERRATO* (USA): "Novel Carbene and Silicon Species for Applications in Organometallic Chemistry" (September 2023)

Postdoctoral Associates

1 *P. DESROSIERS* (USA) : "Complexes métalliques α-diazoïques" (sept. 86-déc. 86)

2 *G. CROCCO* (USA) : "Reactivité de dérivés diazoïques sur des métaux de transition" (avril 86-mai 87)

3 *H. GRUTZMACHER* (RFA) : " Diazophosphines et phosphinocarbenes" (nov. 87-sept. 88)

4 *G. GILLETTE* (USA) : "Synthèse de carbènes stables" (mars 89-juin 90)

5 *D. GUYOT* (France) : "Synthèse d'acylisocyanates" (jan. 90-déc. 92)

6 *A. STRUBE* (RFA) : "Métaux de transition et diazos" (avril 90-sept. 91)

7 *K. HORCHLER* (RFA) : "Ylures mixtes bore-phosphore" (avril 90-avril 91)

8 *G. LABAT* (France) : "Réactivité de carbènes stables avec des boranes" (oct. 91- mai 92)

9 *R. REED* (Canada) : "Complexation de carbènes stables" (déc. 91-juin 93)

10 *J. TAJEDA* (Espagne) : "Synthèse de composés anti-aromatiques" (oct. 92-août 93)

11 *K. BIEGER* (RFA) : "Les composés diazoïques de l'étain" (oct. 92- oct. 93)

12 *M. GRANIER* (France) : "Synthèse d'acylisocyanates" (janv. 92-sept. 93)

13 *A. POLOZOV* (Russie) : "Nouveaux cations du phosphore" (avril 93-jan. 94)

14 *C. LEROUX* (France) : "Synthèse d'acylisocyanates" (août. 93-fev. 94)

15 *U. WECKER* (Allemagne) : "Synthèse d'azirines phosphorées" (sept. 93-sept. 94)

16 *P. DYER* (Angleterre) : "Nouveaux composés anti-aromatiques" (jan. 94-oct. 95)

17 *H. GORNITZKA* (Allemagne) : "Nouveaux composés du gallium I" (jan. 96-)

18 *N. FACKLER* (USA) : "Synthèse de cation silicéniums (juin-juillet 96)

19 *O. POLISCHUK* (Ukraine) : "Chimie de P2" (oct. 96-déc. 97)

20 *M. FARKENS* (Allemagne) : "Catalyseurs de Friedel-Craft"(fév. 97-juillet 97)

21 *L. STELZIG* (Allemagne) : "Nouveaux catalyseurs d'hydrocyanation" (mars 97-fév. 98)

22 *I. COLLADO* (Espagne) : "Cycles à 3 chaînons phosphorés" (oct. 96-fév. 98)

23 *S. MAZIERES* (France) : "Nouveaux carbènes stables" (oct. 97-juillet 98)

24 *S. ITO* (Japon) : "Radical diphosphirényl" (avril 98-mars 99)

25 *J. BYRNE (*Irlande) : "Nouveaux acides de Lewis" (sept 98-août 99)

26 *E. GAVRILOVA* (Russie) : "Nouveaux carbènes stables" (nov. 99-juin 2000)

27 *M. STURMANN* (Allemagne) : "Cumulènes des groupes 14 et 15" (nov. 99- fév. 2000)

28 *D. SCHESCHKEWITZ* (Allemagne) : "Cycles aromatiques à 4 chaînons" (janv. 2000-août 2001)

29 *T. HAPPEL* (Allemagne) : "Nouveaux supports carbonés" (mai 2000-novembre 2001)

30 *A. LEMEUNE* (Russie) : "Nouveaux catalyseurs basiques utiles pour la polymérisation de polysiloxanes cycliques (mai 2000-avril 2001)

31 *V. RUDZEVICH* (Ukraine): "Molécules phosphorée à basse coordinence" (septembre 2000- mars 2001)

32 *J. KRYSIAK* (Pologne) : "Les carbènes en synthèse asymétrique" (novembre 2000- fév. 2001)

33 *H. AMII* (Japon) : "Carbènes stables" (décembre 2000-décembre 2001)

34 *R. RODRIGUEZ CURIEL* (Cuba) : "Activation du P4" (mars 2001-août 2001)

35 *K. KOLLISCH* (Allemagne) : "Nouveaux carbènes" (mars 2001-août 2001)

36 *K. MIQUEU* (France) : "Etude de nouveaux types de liaisons chimiques : approches expérimentale (diffraction des rayons X) et théorique (calculs *ab initio*)" (novembre 2001-juillet 2002)

37 *A. DUMITRESCU* (Roumanie) : "Polymères biodégradables de masse moléculaire faible " (décembre 2001-août 2002)

38 *O. DECHY-CABARET* (France) : "Encapsulation de l'apomorphine et ses dérivés dans les polymères " (décembre 2001-août 2002)

39 *F. BEN* (France) : "Nouveaux catalyseurs basiques utiles pour les réactions d'oligomérisation des silicones" (février 2002-janvier 2003)

40 *L. VRANICAR* (Slovénie) : "Encapsulation de l'adatanserine et ses dérivés dans les polymères " (avril 2002-mars 2003)

41 *J. KRYSIAK* (Pologne) : "Les carbènes en synthèse asymétrique" (avril 2002-juillet 2002)

42 *R. RODRIGUEZ CURIEL* (Cuba) : "Activation of P_4" (September 2001-April 2002)

43 *K. KOLLISCH* (Allemagne) : "New Stable Carbenes" (September 2001-August 2002)

44 *D. SCHESCHKEWITZ* (Allemagne) : "Stable Diradicals" (September 2001-October 2002)

45 *V. RUDZEVITCH* (Ukraine) *:* "Antiaromaticity" (May 2002- May 2003)

46 *S. CONEJERO* (Espagne) : "Stable Aminocarbenes" (May 2002- December 2004)

47 *A. RODRIGUEZ* (Espagne) *:* " Stable Diradicals " (May 2002- December 2004)

48 *V. GANDON* (France): " Stable Diradicals " (September 2002 – September 2003)

49. *C. PRASANG* (Germany): "Carbenes based on boron" (May 2003 – August 2005)

50 *H. LIANG* (Japan): "Stable carbenes" (January 2004 – December 2004)

51 *Y. ISHIDA* (Japan): "New Stable Diradicals" (March 2004-May 2007)

52 *R. JAZZAR* (France): "Heterocyclic carbenes" (January 2005-August 2006)

53 *J. MASUDA* (Canada) : "Activation of P_4" (september 2005-August 2007)

54 *R. DEWHURST* (New-Zealand): " Carbenes and catalysis " (May 2006-April 2007)

55 *G. FREY* (Germany): “Carbenes and catalysis " (July 2006-July 2008)

56 *A. OUALI* (France): “Carbenes and catalysis" (November 2006-November 2007)

57 *A. DYKER* (Canada): “New basic ligands” (January 2007-August 2009)

58 *R. KINJO* (Japan): “Cyclopropenylidenes” (April 2007-November 2011)

59 *E. ALDECO* (Mexico): “Abnormal carbenes” (April 2008-September 2010)

60 *X. ZENG* (China): “Hydroamination” (September 2007-September 2009)

61 *D. MENDOZA-ESPINOZA* (Mexico): “Abnormal carbenes” (September 2009-August 2011)

62 *G. GUISADO* (Spain): “Carbenes and catalysis" (November 2009-February 2012)

63 *N. LASSAUQUE* (France)*:* “Carbenes and catalysis" (November 2009-December 2010)

64 *J. BOUFFARD* (Canada) “Stable radicals” (November 2009-February 2011)

65 *E. GIZIROGLU* (Turkey): (November 2010-June 2011)

66 *M. LÓPEZ GÓMEZ* (Spain): (June 2011-September 2012)

F. DIELMANN (Germany): (September 2011-August 2013)

D. BEZUIDENHOUT (South Africa): (October 2011-September 2012)

R. KRETCHMER (Germany): (October 2012-September 2013)

C. MARTIN (Canada): (October 2011-Juin 2013)

S. YAMAZAKI (Japan): (March 2012-November 2013)

L. JUN (China): (March 2013-February 2015)

X. HU (China): (March 2013- February 2015)

M. POIZAT (France): (March 2014-February 2015)

B. CHATELET (France): (March 2014-August 2014)

J. CHU (China): (April 2014-March 2016)

D. MUNZ (Germany): (June 2014-May 2016)

M. M. HANSMANN (Germany): (September 2015-July 2017)

S. GUO (China): (Janvier 2016-December 2017)

E. T. GONZALEZ DE MENDIVIL (Spain): (February 2016-January 2018)

R. NAKANO (Japan): (April 2016-June 2018)

S. BAJO VELASQUEZ (Spain): (December 2021-July 2022)

*F. MULK*S (Germany): (April 2021-April 2022)

Y. K. LOH (Singapore): (August 2021-June 2023)

J. LORKOWSKI (Poland): (Septembre 2022-present)

M. ABDELLAOUI (France): (February 2023-present)

Visiting Professors

1 *Pr. K. B. DILLON* (United Kingdom) : “Phosphore hypervalent” (oct. 86-mai 87)

2 *Pr. C. WENTRUP* (Australia) : “Nitrilimines” (sept. 92-jan. 93)

3 *Pr. C. REED* (Canada) :"Synthèse de silicéniums stables (juin 96)

4 *Pr. J. MICHL* (USA) : "Physico-chimie des carbènes (février 99)

5 *Pr. J. RIGBY* (USA) : « Carbènes nucléophiles » (sept-nov. 99)

6 *Pr. V. ROMANENKO* (Ukraine) : "Hétérocycles à visée vétérinaire" (sept 98-)

7 *Pr. W.W. SCHOELLER* (Allemagne) : "Approche théorique des carbènes" (août/septembre 2000)

8 *Pr. W. NAKANISHI* (Japon) : "Hypervalence du phosphore" (septembre 2000)

9 *Pr. A. DE MEIJERE* (Allemagne) : "Cyclopropanation" (octobre 2000)

10 *Pr. W. SCHOELLER* (Allemagne) : "Méthodes modernes de la chimie quantique et espèces hautement réactives" (mars 2002)

11 *Pr. K. LAMMERSTMA* (Hollande) : "Chimie physique et espèces hautement réactives" (mai 2005)

12 *Pr. W. SCHOELLER* (Allemagne) : "Méthodes modernes de la chimie quantique et espèces hautement réactives" (sept-oct 2005)

13 *Pr. D. STEPHAN* (Canada): (Nov-Dec 2011)

14 *Pr. M. SCHEER* (Germany): (April-May 2017)

PRESENT COLLABORATORS

. CNRS Research Associates

1 Michele SOLEILHAVOUP (France) September 2001-present
2 Mohand MELAIMI (France) October 2006-present
3 Rodolphe JAZZAR (France) December 2014-present

. Postdoctoral Associates

1 Jan LORKOWSKI (Poland): (Septembre 2022-present)
2 Mehdi ABDELLAOUI (France): (February 2023-present)

. Graduate Students

1 Alexis DAY (September 2020-present)
2 Patrick YORKGITIS (September 2020-present)
3 Joseph YOON (September 2020-present)
4 Levan GOJIASHVILI (Septembre 2022-present)

. Undergraduate Students

1 Wwnyi Dong (September 2019-present)
2 Ershuang Lu (June 2021-present)
3 Bethany Sawyer (June 2021-present)

PAST COLLABORATORS (in the US 2001-2021) AND PRESENT POSITION

. CNRS Research Associates from UCR and UCSD

1 Yves CANAC (CR1): November 2001-April 2006
Present: Directeur de Recherche CNRS (UPR 8241, Toulouse)

2 Huy NGOC HOA TRAN (DR2): September 2008- August 2009
Present: Directeur de Recherche CNRS (Nanyang University, Singapore)

3 David MARTIN (CR1): January 2010-July 2014
Present: Charge de Recherche CNRS (Universite Grenoble)

. Post-Doctoral Associates from UCR and UCSD

1 David SCHESCHKEWITZ (Germany, Humboldt Fellowship): Sept. 2001-October 2002
Present: Krupp-Chair of General and Inorganic Chemistry, Saarland University, Campus Dudweile (Germany)

2 Valentyn RUDZEVITCH (Ukraine): May 2002- May 2003
Present: Lecturer (Johannes Gutenberg Universität, Mainz)

3 Salvador CONEJERO (Spain, Spanish Fellowship): May 2002- December 2004
Present: Research Scientist CSIC, Instituto de Investigaciones Químicas (Sevilla, Spain)

4 Amor RODRIGUEZ (Spain, Spanish Fellowship): May 2002- December 2004
Present: Research Scientist CSIC, Instituto de Investigaciones Químicas (Sevilla, Spain)

5 Vincent GANDON (France): September 2002 – September 2003
Present: Professor (University of Paris-Orsay)

6 Carsten PRASANG (Germany, Humboldt Fellowship): 5/2003-9/2005
Present: Senior Researcher, Saarland University (Germany)

7 Hongze LIANG (China): January 2004 – December 2004
Present: Associate Professor (University of Nottingham-Ningbo)

8 Yutaka ISHIDA (Japan, JSPS Fellowship): March 2004-March 2007
Present: Associate Professor (Tokyo Institute of Technology)

9 Rodolphe JAZZAR (France): January 2005-August 2006
Present: Directeur de Recherche CNRS (UMI UCSD/CNRS, San Diego)

10 Jason MASUDA (Canada, NSERC Fellowship): September 2005-August 2007
Present: Professor (StMary's University, Halifax)

11 Ryan DEWHURST (New Zealand): February 2006-march 2007
Present: Senior Scientist (Wurzburg University)

12 Guido FREY (Germany, Humboldt Fellowship): July 2006-July 2008
Present: General Management, OXEA GmbH, (Oberhausen, Germany)

13 Armelle OUALI (France, Lavoisier Fellowship): November 2006-November 2007
Present: Directeur de Recherche CNRS (UPR 8241, Toulouse)

14 Adam DYKER (Canada, NSERC Fellowship): January 2007-August 2009
Present: Associate Professor (University of New Brunswick)

15. Xiaoming ZENG (China): September 2007-September 2009

Present: Professor, Xi'an Jiaotong University (XJTU), P. R. China

16 Eugenia ALDECO (Mexico): April 2008-September 2010
Present: Research Scientist (Toluca, Estado de México)

17 Nicolas LASSAUQUE (France): (November 2009-December 2010)
Present: Entrepreuner (Paris)

18 Emrah GIZIROGLU (Turkey): November 2010-June 2011
Present: Professor (University of Adnan Menderes,Turkey)

19 Daniel MENDOZA-ESPINOZA (Mexico): September 2009-August 2011
Present: AssociateProfessor (UNAM, Mexico)

20 Rei KINJO (Japan): April 2007-November 2011
Present: Associate Professor (Nanyang University, Singapore)

21 Jean BOUFFARD (Canada): November 2009-February 2011
Present: Associate Professor (Ewha Womans University, Seoul, Korea)

22 Gregorio GUISADO-BARRIOS (Spain): (November 2009-February 2012)
Present: Personal investigador, Universitat Jaume I of Castelló (Spain)

22 Maria LÓPEZ GÓMEZ (Spain): (June 2011-September 2012)
Present: Post-Doc, University of Pretoria (South Africa)

23 Fabian DIELMANN (Germany): (September 2011-August 2013)
Present: Professor, University of Vienna, (Austria)

24 Daniela BEZUIDENHOUT (South Africa): (October 2011-September 2012)
Present: Associate Professor, University of the Witwatersrand (South Africa)

25 Robert KRETCHMER (Germany): (October 2012-September 2013)
Present: Assistant Professor, University of Ulm, Germany

26 Caleb MARTIN (Canada): (October 2011-June 2013)
Present: Assistant professor, Baylor University (Waco, Texas)

27 Liqun JIN (China): (March 2013-February 2015)
Present: Senior Researcher, Zhejiang University of Technology, China

28 Xingbang HU (China): (March 2013- February 2015)
Present: Associate Professor, University of Nanjing (China)

29 Jiaxang CHU (China): (April 2014-March 2016)
Present: Associate Professor, Chinese Academy of Sciences, China

30 Dominik MUNZ (Germany): (June 2014-May 2016)
Present: Habilitant, Erlangen University, Germany

31 Max M. HANSMANN (Germany): (September 2015-August 2017)
Present: Assistant Professor, T. U. Dortmund (Germany)

32 Ryo NAKANO (Japan): (April 2016-June 2018)
Present: Assistant Professor, Nagoya University (Japan)

33 Eder TOMAS GONZALEZ DE MENDIVIL (Spain): (February 2016-January 2018)
Present: Charge de Recherche CNRS, Grenoble (France)

81 Ryo NAKANO (Japan): (April 2016-June 2018)
Present: Research Associate, Nagoya University (Japan)

82 *S. BAJO VELASQUEZ* (Spain): (December 2021-July 2022)
Present: Research Scientist CSIC, Instituto de Investigaciones Químicas (Sevilla, Spain)

83 *F. MULK*S (Germany): (April 2021-April 2022)
Present: Assistant Professor, RWTH Aachen University (Germany)

84 *Y. K. LOH* (Singapore): (August 2021-June 2023)
Present: Research Scientist A (Singapore)*

. Graduate Students from UCR and UCSD

1. Xavier CATTOEN (France) (10/2001- 9/2004)
Present: Charge de Recherche CNRS, (Grenoble University)

Jean-Baptiste BOURG (France): 12/2003-8/2006
Present: Research Chemist, (Materia Inc, Pasadena, CA)

Joan VIGNOLLE (France): 1/2003-12/2005
Present: Charge de Recherche CNRS, (Bordeaux University)

Gade FUCKS (France): 1/2004-12/2006
Present: Assistant Professor (Strasbourg University)

Maoying SONG (China): 9/2002-6/2007
Present: Project Leader, The Shepherd Chemical Company

Matt ASAY (USA): 10/2003-2/2009
Present: Assistant Professor (UNAM, Mexico)

Vincent LAVALLO (USA) 10/2005-6/2008
Present: Associate Professor (University of California, Riverside)

Alan DEHOPE (USA) 9/2006-12/2010
Present: Senior Scientist (Livermore National Laboratory)

Glenn KUCHENBEISER: 9/2007-8/2009
Present: Research Scientist, Air Liquide (Wilmington)

Olivier BACK (France): 10/2007-5/2011
Present: Research Scientist, Rhodia Inc. (Bordeaux, France)

Gael UNG (France): 9/2009-9/2013
Present: Assistant Professor, University of Connecticut (USA)

David WEINBERGER (USA): 9/2009-6/2014
Present: Staff Scientist, BASF Corporation, Pennsylvania, USA

Martin ELLINGER (France); 9/2009-9/2015
Present: Scientific Analyst, Morrison & Foerster LLP, Palo Alto (USA)

David RUIZ (USA): 9/2009-12/2015
Present: Senior Chemist, Behr Process Corporation (USA)

Janell MAHONEY (USA): 9/2011-1/2017
Present: Post-doc, University of Nevada, Reno (USA)

Cory WEINSTEIN (USA): 9/2012-2/2018
Present: Instrument Scientist, Intel Corp. (USA)

Erik ROMERO (USA) (9/2014-12/18)
Present: Assistant Professor, UC San Diego (USA)

Daniel TOLENTINO (9/2014-7/2019)
Present: Instrument Scientist, Intel Corp. (USA)

Jesse PELTIER (9/2015-7/2020)
Present: Assistant Professor, Northeastern University, Boston (USA)

Glen JUNOR (9/2017-7/2021)
Present: Program Manager, Public Sector at Sublime Systems (Somerville, MA)(USA)

Sima YAZDANI (10/2017-7/2021)
Present: Senior Scientist Pacific Biosciences, San Diego

Francois VERMERSCH (9/2017-6/2022)
Present: Research Scientist, Inception Therapeutics, San Diego, CA

Adam VIANNA (9/2017-8/2022)
Present: Senior Process Engineer, ASM America, Phoenix, Arizona

Melinda SERRATO (9/2017-12/2023)
Present: Post-doc, University of Strasbourg (France)

Victor Wang (9/2017-8/2023)

CONTRACTS AND GRANTS IN THE US

(Departmental Equipment Grants are not included)

1 Unrestricted
UCR
$ 1,000,000 direct cost

2 Phosphorus promoted rearrangements of cationic to anionic centers: En route to original cations and anions
ACS-PRF (38192-AC4), July 2002 - June 2004
$ 80,000 direct cost

3 Stable localized 1,3-diradicals based on boron and heavier main group elements
NSF (CHE-0213510), August 2002 - July 2005
$ 400,000 total cost

4 gift
Fabre&Kramer Pharmaceutical Company
$ 20,000

5 New routes to stable carbenes
RHODIA Inc. (000698-003), July 2003 - June 2004
$ 81,000 total cost

6 New transition metal complexes for homogeneous catalysis
RHODIA Inc. (000698-004), July 2003 - June 2004
$ 64,000 total cost

7 New materials based on group 13 and group 15 element containing heterocycles
RHODIA Inc. (000698-005), November 2003 – October 2004
$ 64,000 total cost

8 Stable diradicals: New chemical reagents
RHODIA Inc. (000698-006), November 2003 – October 2006
$ 192,000 total cost

9 Unrestricted
UCR
$ 500,000 direct cost (November 2004 – October 2009)

10 Transition Metal Complexes with new carbenes ligands for coupling reactions and asymmetric catalysis
RHODIA Inc. (000698-007), November 2004 – October 2005
$ 69,000 total cost

11 Three dimensional cations of group 14 elements
UC MEXUS, July 2004 – June 2006
$ 10,000 direct cost (for UCR)

12 Pd-catalyzed coupling reactions
RHODIA Inc. (000698-008), March 2005 – February 2006
$ 69,000 total cost

13 Stable localized 1,3-diradicals based on boron and heavier main group elements
NSF (CHE-0518675), August 2005 - July 2008
$ 435,000 total cost

14 Pd- and Cu catalyzed coupling reactions
RHODIA Inc. (000698-009), November 2005 – October 2006
$ 70,000 total cost

15 Catalytic CH-activation
RHODIA Inc. (000698-010), January 2006 –December 2008
$ 210,000 total cost

16 New tunable stable carbenes as organic catalysts
RHODIA Inc. (000698-011), March 2006 – February 2007
$ 70,000 total cost

17 Optimization of the design of stable CAACs and their use as ligands for transition metal based catalysts
RHODIA Inc. (000698-012), January 2007 – December 2007
$ 72,000 total cost

18 Activation of small molecules with stable carbenes
RHODIA Inc. (000698-013), Mars 2007 – February 2008
$ 72,000 total cost

19 Stable Carbenes: Emerging Ligands for Catalysis
NIH (R01 GM 68825), August 2005 – June 2009
$ 848,781 total cost

20 P4 Activation
RHODIA Inc. (000698-013), January 2008 – Decembre 2011 2008
$ 300,000 total cost

21 Stabilization of Neutral Divalent CarbonCompounds with One or Two Lone Pairs of Electrons: En Route to Strong Donor Ligands
NSF (CHE- 0808825), July 2008 – June 2011
$ 444,000 total cost

22 New Carbon-based Ligands for Hydroamination and olefin metathesis
NIH (R01 GM 68825), August 2009 – June 2013
$ 1,505,288 total cost

23 Transition-Metal-Catalyzed Hydroamination of Non-Activated Carbon-Carbon Multiple Bonds with Ammonia.
DOE (DE-FG02-09ER16069), September 2009 – August 2012
$ 450,000 total cost

24 International Collaboration in Chemistry: Carbenes as Stabilizing and Activating Agents in Boron, Carbon and Phosphorus Chemistry
NSF (CHE-0924410), September 2009 – August 2012
$ 450,000 total cost

25 Novel types of stable carbenes and their applications
NSF (CHE-1112133 and CHE-1316956), July 2011 – June 2014
$ 444,000 total cost

26 Unrestricted
UCSD
$ 1,800,000 direct cost

27 Ammonia and hydrazine: Transition-metal catalyzed hydroamination and metal-free catalyzed functionalization
DOE (DE-FG02-13ER16370), November 2012 – October 2015
$ 465,000 total cost

28 Stable Carbenes and Silylenes. Synthesis, Reactivity and Activation of Small Molecules. Experiment and Theory
US.-israel binat'l science foundation (BSF) (2012184), January 2014 – December 2017
$ 214,800 total cost

29 Interplay between stable carbenes and neutral group-13 element nucleophiles, organic radicals, and strong bases
NSF (CHE-1359809), July 2014 – June 2017
$ 480,000 total cost

30 From Stable Carbenes to Nano-Electronic Switches
French American Cultural Exchange; Partner University Fund, September 2014 – June 2019
$ 150,000 total cost

31 Ammonia and hydrazine: Transition-metal catalyzed hydroamination and metal-free catalyzed functionalization
DOE (DE-FG02-13ER16370), November 2016 – October 2019
$ 500,000 total cost

32 Collaboration UCSD-E2P2L
SOLVAY Inc, December 2016 – November 2019
$ 300,000 total cost

33 Stable synthetic equivalents of the monophosphorus anion (P-): a clean substitute for PC13
NSF (CHE-1661518), July 2017 – June 2020
$ 495,000 total cost

34 Collaboration UCSD-E2P2L
SOLVAY Inc, March 2019 – July 2021
$ 100,000 total cost

35 Novel types of stable carbene for transition metal and metal-free catalysis
DOE (DE-FG02-13ER16370), July 2019 – June 2022
$ 550,000 total cost

36 Mesoionic compounds: A novel family of organocatalysts
ACS-PRF (60776-ND1) 12/2019-8/2022
$ 120,000 total cost

37 Mono-coordinate carbon, boron, and phosphorus species
NSF (CHE-1954380), July 2020 – June 2023
$ 510,000 total cost

38 Stable carbenes as transition metal catalyst surrogates
DOE (DE-SC0009376), September 2022 – August 2025
$ 550,000 total cost

39 Unleashing mesoionic carbene-derived super-reductants to overcome the limitations of NHC-oxidative organocatalysis without a co-catalyst
NSF (CHE-2153475), September 2022 – August 2025
$ 525,000 total cost

40 Collaboration UCSD-E2P2L
SOLVAY Inc, January 2023 – January 2026
$ 269,385 total cost

41 Highly electron-deficient carbon, boron and silicon compounds
NSF (CHE-2246948), July 2023 – June 2026
$ 550,000 total cost