TECHNISCHE UNIVERSITÄT WIEN
Vienna University of Technology

KIRCHNER Karl (h-index 55, Scopus, 2024-09-23)
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Date of Birth: 14. 12. 1960
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- **EDUCATION**

1971-1979	High-School, Bundesrealgymnasium Wiener Neustadt, Austria
1979-1984	Studies of Chemistry, Technical University Vienna (TUW), Austria
1984	Diploma (Master Thesis), Institute of Inorganic Chemistry (with Prof. R. Schmid), TUW
1984-1987	Ph.D., Institute of Inorganic Chemistry (with Prof. R. Schmid), TUW
1992-1994	Habilitation in Organometallic Chemistry at TUW

- **CURRENT POSITION**

2020-present	Full Professor of Organometallic Chemistry, Institute of Applied Synthetic Chemistry (IAS), TUW

- **PREVIOUS POSITIONS**

1984-1987	Research Assistant at the Institute of Inorganic Chemistry with **Prof. R. Schmid**, TUW
1988-1990	Postdoctoral Fellow with **Prof. J. P. Hunt**, Department of Chemistry, Washington State University, Pullman, WA, USA
1990-1991	Post-doctoral Fellow with **Nobel Laureate Prof. H. Taube**, Department of Chemistry, Stanford University, CA, USA
1992-1994	Assistant Professor, Institute of Inorganic Chemistry with **Prof. R. Schmid**, TUW
1994-2019	Professor of Organometallic Chemistry, IAS, TUW
2020-2024	Head of the Institute of Applied Synthetic Chemistry (IAS)

- **SCIENTIFIC ACTIVITIES**

1999-2003	Visiting Scientist (total of 2 months), Acciones Integradas Joint Spanish/Austrian Research Project, University of Cadiz, Spain (with Prof. M. C. Puerta)
1999-2003	Visiting Scientist (total of 2 months), Scientific-technical Cooperation Joint Polish/Austrian Research Project, University of Wrocław, Poland (with Prof. A. M. Trzeciak)
2000	Visiting Scientist (4 months), Kyushu University, Fukuoka, Japan (with Prof. H. Nagashima)
2008	Visiting Scientist (1 month), National Institute of Technology, Tiruchirappalli, India (with Prof. R. Karvembu)
2014	Visiting Scientist (1 month), Kyushu University, Fukuoka, Japan (with Prof. H. Nagashima)
2017	Visiting Scientist (1 month), Fukuoka University, Fukuoka, Japan (with Prof. K. Matsubara)

- **NON-SCIENTIFIC ACTIVITIES**

1991	Advisor to the United Nation Special Commission, Inspections of Iraq´s Chemical Weapons Facilities as Decontamination Specialist (Three Missions)

- **FELLOWSHIPS AND AWARDS**

1995	JSPS Fellowship (1 month), Tokyo Institute of Technology, Japan
1999	Novartis Prize Austria
2012-2018	Pro Didactica Teaching Awards: Best Freshman Laboratory Course, Best Audio-visual Teaching Aid, Best Teaching Material

- **ACADEMIC RECORD**

Since 1988	**300 Publications** in peer-reviewed journals, 9 Book Chapters (**h-index: 55**, >10000 citations, 25 citations/paper), s
Since 1988	**169 Lectures** (141 invited lectures at universities and research institutions)

- **SUPERVISION OF STUDENTS AND POSTDOCTORAL FELLOWS**

Since 1995	9 Postdoctoral fellows / 33 Ph.D. students / 48 Master students / 27 Bachelor students

- **INSTITUTIONAL RESPONSIBILITIES**

2013-2022	Member of the Commission of Student Affairs
2020-2024	Head of the Institute of Applied Synthetic Chemistry

- **TEACHING ACTIVITIES**

2004-2023	General Chemistry (1st semester, Bachelor students)
2004-2022	General Chemistry Laboratory Course (1st semester, Bachelor students)
1998-2024	Inorganic Chemistry (3rd semester, Bachelor students)
2008-2024	Advanced Organometallic Chemistry (1st semester, Master studies)

- **ADVISORY BOARDS AND MEMBERSHIPS**

2003-2005	Advisory Board Member *Organometallics*
2005-2013	Advisory Board Member *Eur. J. Inorg. Chem.*
2011-2023	Austrian Delegate and Vice President, EuChemS, Division of Inorganic Chemistry
Since 1991	Austrian Chemical Society, American Chemical Society

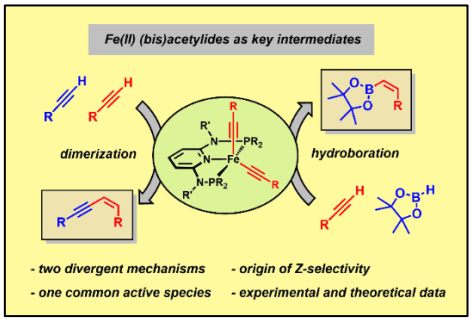
- **ORGANIZATION OF SCIENTIFIC MEETINGS**

2006	Organizer of Final Meeting of COST Action D17 "Oligomers, Polymers and Copolymers via Metal Catalysis" at TUW
2007	Organizer (Chairman) of the 9th FIGIPAS Meeting in Inorganic Chemistry at TUW (350 participants), Vienna
2023	Co-Organizer of the 6th EuChemS Inorganic Chemistry Conference at TUW (300 participants)

- **RESEARCH INTERESTS AND EXPERTISE**

Ligand design, homogeneous catalysis with non-precious and earth abundant metals related to sustainability, small molecule activation (H_2, O_2, CO_2), DFT calculations

RECENT KEY PUBLICATIONS (relevant to base-metal catalysis)



(1) Stable, Yet Highly Reactive Non-classical Polyhydride Iron Pincer Complexes - Z-Selective Dimerization and Hydroboration of Terminal Alkynes", Gorgas, N.; Alves, L. G.; Stöger, B.; Martins, A. M.; Veiros, L. F.; Kirchner, K. *J. Am. Chem. Soc.* **2017**, *139*, 8130-8133. (**151 citations**)

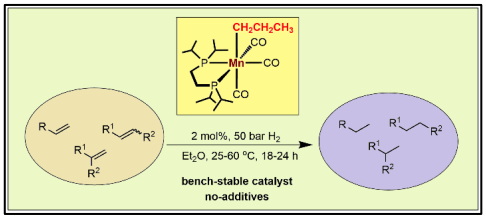
(2) "Mn-Catalyzed Aminomethylation of Aromatic Compounds with Methanol as Sustainable C1 Building Block", Mastalir, M.; Pittenauer, E.; Allmaier, G.; Kirchner, K. *J. Am. Chem. Soc.* **2017**, *139*, 8812-8815. (**154 citations**)

(3) "Isoelectronic Manganese and Iron Hydrogenation/Dehydrogenation Catalysts - Similarities and Divergences", Gorgas, N.; Kirchner, K. *Acc. Chem. Res.* **2018**, *51*, 1558-1569. (**197 citations**)

(4) Iron(II) (Bis)Acetylide Complexes as Key Intermediates in the Catalytic Hydrofunctionalization of Terminal Alkynes", Gorgas, N.; Stöger, B.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2018**, *8*, 7973-7983. (**60 citations**)

(5) Chemoselective Hydrogenation of Aldehydes under Mild and Base-free Conditions - Manganese Outperforms Rhenium", Glatz, M.; Stöger, B.; Himmelbauer, D.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2018**, *8*, 4009-4016. (**113 citations**)

(6) "Carbon Dioxide Reduction to Methanol Catalyzed by Mn(I) PNP Pincer Complexes under Mild Reaction Conditions", Bertini, F.; Glatz, M.; Stöger, B.; Peruzzini, M.; Veiros, L. F.; Kirchner, K.; Gonsalvi, L. *ACS Catal.* **2019**, *9*, 632-639. (**74 citations**)

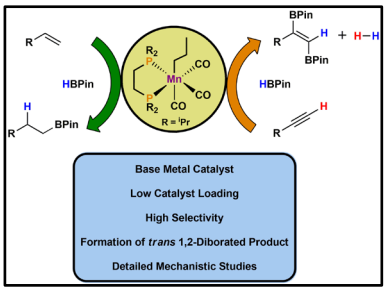


(7) "Rethinking Old Concepts - Hydrogenation of Alkenes Catalyzed by Bench-Stable Alkyl Mn(I) Complexes", Weber, S.; Stöger, B.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2019**, *9*, 9715-9720. (**61 citations**)

(8) "Access to Fe^{II} Bis(σ-B-H) Aminoborane Complexes through Protonation of a Borohydride Complex and Dehydrogenation of Amine-Boranes", Gorgas, N.; Stöger, B.; Veiros, L. F.; Kirchner, K. *Angew. Chem., Int. Ed.* **2019**, *58*, 13874-13879. (**12 citations**)

(9) "Efficient *Z*-Selective Semihydrogenation of Internal Alkynes Catalyzed by Cationic Iron(II) Hydride Complexes", Gorgas, N.; Brünig, J.; Stöger, B.; Veiros, L. F.; Kirchner, K. *J. Am. Chem. Soc.* **2019**, *141*, 17452-17458. (**60 citations**)

(10) "Selective Manganese-Catalyzed Dimerization and Cross Coupling of Terminal Alkynes", Weber, S.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2021**, *11*,6474-6483. (**15 citations**)

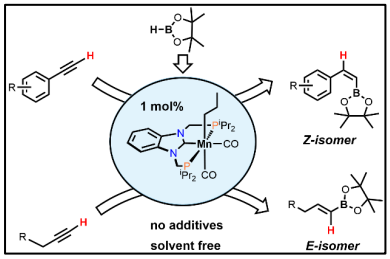


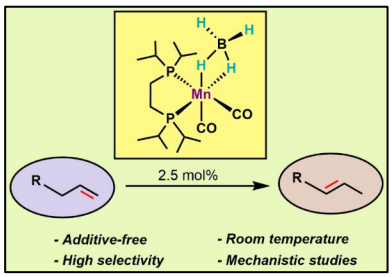
(11) "Hydroboration of Terminal Alkenes and *trans*-1,2-Diboration of Terminal Alkynes Catalyzed by a Mn(I) Alkyl Complex", Weber, S.; Zobernig, D. P.; Stöger, B.; Veiros, L. F.; Kirchner, K. *Angew. Chem., Int. Ed.* **2021**, *60*, 24488-24492. (**21 citations**)

(12) "Manganese-Catalyzed Dehydrogenative Silylation of Alkenes Following two Parallel Inner-Sphere Pathways", Weber, S.; Glavic, M.; Stöger, B.; Pittenauer, E.; Veiros, L. F.; Kirchner, K. *J. Am. Chem.* Soc. **2021**, *143*, 17825-17832. (**23 citations**)

(13) "*E*-Selective Manganese-Catalyzed Semihydrogenation of Alkynes with H_2 Directly Employed or *in situ* Generated", Farrar-Tobar, R. A., Weber, S.; Csendes, Z.; Ammaturo, A.; Fleissner, S.; Hoffmann, H.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2022**, *12*, 2253-2260. (**28 citations**)

(14) "Manganese Alkyl Carbonyl Complexes: From Iconic Stoichiometric Textbook Reactions to Catalytic Applications", Weber, S.; Kirchner, K. *Acc. Chem. Res.* **2022**, *55*, 2740-2751. (**14 citations**)





(15) "Base and Additive-free Carbon Dioxide Hydroboration to Methoxyboranes Catalyzed by Non-pincer-type Mn(I) Complexes" Kostera, S.; Weber, S.; Blaha, I.; Peruzzini, M.; Kirchner, K.; Gonsalvi, L. *ACS Catal.* **2023**, *13*, 5236-5244. (**3 citations**)

(16) "Selective Transfer-Semihydrogenation of Alkynes by an Iron PCP Pincer Alkyl Complex", Schratzberger, H.; Stöger, B.; Veiros, L. F. Kirchner, K. *ACS Catal.* **2023**, *13*, 14012-14022.

(17) "Hydroboration of Terminal Alkynes Catalyzed by a Mn(I) Alkyl PCP Pincer Complex following Two Diverging Pathways", Zobernig, D. P.; Stöger, B.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2024**, *14*, in press.

(18) "Alkene Isomerization Catalyzed by a Mn(I) Bisphosphine Borohydride Complex", Blaha, I.; Weber, S.; Dülger, R.; Veiros, L. F.; Kirchner, K. *ACS Catal.* **2024**, *14*, in press.