



# Dr. Peter Coburger

Junior Research Group Leader

peter.coburger@tum.de | Department of Chemistry, TU München, Germany | @CoburgerPeter  
+49 (0)89 289 13132 | <https://www.coburger-lab.de/>



## Education & Research Experience

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### Emmy-Noether Research Group Leader

Carbene- and phosphonium substituted heterocycles for sustainable catalysis" (CarPhoScaT)

*TU Munich*

since 05/2024

### Liebig Junior Research Group Leader

Carbene-substituted heterocycles for sustainable catalysis

*TU Munich*

01/2023 - 2024

### Postdoctoral researcher

with Prof. Hansjörg Grützmacher, Research on main-group biradicaloids

*ETH Zurich*

06/2020 – 12/2022

### Postdoctoral researcher

with Prof. Robert Wolf, Computational and experimental investigations on first-row transition-metal complexes

*University of  
Regensburg*

04/2019 – 05/2020

### Research stay at the group of Prof. Robert Wolf

collaboration as part of the PhD project

*University of  
Regensburg*

08/2016 – 10/2016

### Doctoral project

A carborane-substituted 1,2-Diphosphetane as Building Block for the Development of new Ligands with Potential Application in Homogeneous Catalysis, grade: summa cum laude) under the supervision of Prof. Dr. Dr. h.c. mult. E. Hey-Hawkins, associated member of the Leipzig Graduate School of Natural Sciences – Building with Molecules and Nano-objects (BuildMoNa)

*University of  
Leipzig*

10/2015 – 4/2019

### Research stays as part of the M.Sc. chemistry studies

Advanced laboratory course and experimental for the M.Sc. thesis in the group of Dr. Petr Kilian

*University of St.  
Andrews*

07/2014 – 09/2014;  
5/2015 – 7/2015

### M.Sc. Chemistry

overall grade: 1.3, Masters's Thesis: Reactivity of rigid Backbone-supported Diphosphanes, grade: 1.0

*University of  
Leipzig*

10/2013 – 9/2015

### B.Sc. Chemistry

overall grade: 1.4, B.Sc. Thesis: Synthese *P*-chiraler Phosphansulfide als Vorläufer von Phosphanliganden für die Homogene Katalyse, grade: 1.0

*University of  
Leipzig*

10/2010 – 9/2013

### High school degree

(Abitur, grade: 1.0)

*Gymnasium Greiz*

05/2010

## Scientific Output

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**Research works:** 45, **h-index:** 12, **i10-index:** 19, **Number of citations:** 499 (determined from Google Scholar, 20.01.2025)

## Teaching Experience

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### Substitute Lecturer for Prof. Thomas Fässler

“Grundlagen der Chemie für Maschinenwesen”

*TU Munich*

10-11/2023 & since

10/2024

### Supervision of a Highschool Research Project

*ETH Zurich*

02/2021

### Supervision of a Laboratory Course in Analytical Chemistry

(for first semester students in biology)

*University of*

*Regensburg*

06/2019

### Seminar in General Chemistry

(for first semester students in medicine)

*University of*

*Leipzig*

10/2018 – 03/2019

### Supervision of Advanced Laboratory Courses

(for master's students, organometallic and inorganic chemistry)

*University of*

*Leipzig*

10/2015 – 03/2019

### Tutorials and Seminars

Physical Chemistry, Inorganic Chemistry and Organic Chemistry for undergraduate chemistry students (2<sup>nd</sup> to 4<sup>th</sup> semester)

*University of*

*Leipzig*

04/2012 – 12/2014

## Scholarships & Awards

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### Emmy-Noether Fellowship

*2024*

### Liebig Fellowship

*2023*

### Research Fellowship (Postdoc, funded by DFG)

*2020*

### BuildMoNa Award (3rd place) for “Outstanding Scientific Results”

*2020*

### PhD Fellowship (Studienstiftung des Deutschen Volkes)

*2016*

### Fellowship of the Studienstiftung des Deutschen Volkes (Chemistry Studies)

*2014*

### Deutschlandstipendium

*2014*

## Outreach

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| <b>Scientific Board Member for the TUM Global Postdoc Fellowship</b>  | <i>Since 2024</i>  |
| <b>Member of the organising Team/local committee “GDCh Conference on Inorganic Chemistry of the Divisions of Solid-state Chemistry &amp; Materials Research and Wöhler Association for Inorganic Chemistry”</b> | <i>2023 - 2024</i> |
| <b>Guest Editor</b><br>joint special collection <b>Non-Innocent Ligands in Sustainable Catalysis</b> (European Journal of Inorganic Chemistry, ChemCatChem, Chemistry Open)                                     | <i>2023 - 2024</i> |
| <b>Author for the “Nachrichten aus der Chemie”</b><br>Joint author of the “Blickpunkt Anorganik” for the “Nachrichten aus der Chemie” (monthly issued magazine of the German Chemical Society).                 | <i>2022 - 2023</i> |
| <b>Organisation and supervision of the “Vierländerwettbewerb”</b><br>Chemical Olympiad for senior high school students from Berlin, Brandenburg, Sachsen and Sachsen-Anhalt                                     | <i>2013 - 2015</i> |
| <b>Member of the “Friends of the Chemical Olympiad” (Förderverein Chemieolympiade, FChO).</b>   | <i>since 2013</i>  |
| <b>Member of the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh)</b>  | <i>since 2010</i>  |

## Invited talks, Conferences and Summer Schools

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| <b>Invited presentation at the Inorganic Colloquium at FU Berlin</b><br>„Phosphorus-centered Biradicaloids: From Lab Curiosities to Applications”  | <i>Berlin</i><br>11/2024            |
| <b>GDCh Conference on Inorganic Chemistry of the Divisions of Solid-state Chemistry &amp; Materials Research and Wöhler Association for Inorganic Chemistry</b><br>„Lewis-acidic Pyrimidanes based on a P-centered biradicaloid ligand” (poster presentation by PhD student David Zuber) | <i>München</i><br>09/2024           |
| <b>4<sup>th</sup> Spanish Workshop on Phosphorus Chemistry (SWPC)</b><br>“Phosphorus-centered Biradicaloids: From Lab Curiosities to Applications” (invited keynote lecture)   | <i>Online conference</i><br>07/2024 |
| <b>Chemiedozententagung</b>  | <i>Aachen</i><br>03/2024            |
| <b>20<sup>th</sup> European Workshop on Phosphorus Chemistry (EWPC)</b><br>„Phosphonium-Substituted Diphospho-indenylide (PPI): electronic structure and ligand properties” (poster presentation by PhD student David Zuber)   | <i>Würzburg</i><br>03/2024          |
| <b>6<sup>th</sup> EuChemS Inorganic Chemistry Conference</b>   | <i>Vienna</i><br>09/2023            |

„Phosphonium-Substituted Diphospha-indenylide (PPI): electronic structure and ligand properties” (Poster presentation)

**6<sup>th</sup> International Conference on Phosphorus, Boron, Silicon (PBSi),**

*Berlin*

„From Polycycles with a  $[C_3P_3]^{2-}$  core to a Triphosphinine in Single-Electron Redox Steps” (oral presentation)

03/2023

**Chemiedozententagung**

*Dresden*

03/2023

**44<sup>th</sup> International Conference on Coordination Chemistry (ICCC)**

*Rimini*

„From Wade-Mingos clusters to Huckel-Aromatics in single-electron transfer steps” (oral presentation)

08/2022

**18<sup>th</sup> European Workshop on Phosphorus Chemistry (EWPC)**

*Rostock*

„Redox-chemistry of a carbene-stabilised Triphosphinine Dianion” (poster presentation)

09/2022

**Inorganic Colloquium**

*Hirschegg*

„Oxidative P-P Bindungsaddition an 3d-Übergangsmetalle“ (oral presentation)

08/2019

**16<sup>th</sup> Mitteldeutsches Anorganiker-Nachwuchssymposium (MANS),**

*Jena*

„Neue Zugänge zu Phosphanliganden mit nido-Carboranrückgrat“ (oral presentation)

09/2018

**15<sup>th</sup> European Workshop on Phosphorus Chemistry (EWPC)**

*Uppsala*

„Oxidative P-P Bond Addition to Cobalt(-I)“ (oral presentation)

03/2018

**6<sup>th</sup> Annual Conference of the Graduate School BuildMoNa (ABC)**

*Leipzig*

„Oxidative P-P Bond Addition to Cobalt(-I)“ (oral presentation)

03/2018

**Summer School “Electronic Structure and Spectroscopy of Transition Metal Complexes”**

*Gelsenkirchen*

09/2017

**Inorganic Colloquium**

*Hirschegg*

„Oxidative Additionsreaktion von carboran-substituierten Diphosphetanen mit Bis(1,5-cyclooctadien)cobaltat(-I)“ (oral presentation)

08/2017

**22<sup>nd</sup> European Conference on Organometallic Chemistry (EuCOMC)**

*Amsterdam*

“Synthesis and Characterisation of a Homoleptic Cobalt(III)-phosphanido Complex“ (poster presentation)

07/2017

**5<sup>th</sup> Annual Conference of the Graduate School BuildMoNa (ABC)**

*Leipzig*

„Ortho-Carborane as backbone for the development of hemilabile ligands” (oral presentation)

03/2017

**42<sup>nd</sup> International Conference on Coordination Chemistry (ICCC)**

*Brest*

„Synthesis of Tetradentate Ligands starting from Carborane-substituted 1,2-Diphosphetanes“ (poster presentation)

07/2016

**13<sup>th</sup> European Workshop on Phosphorus Chemistry (EWPC)**

*Berlin*

„Synthesis of new Bisphosphanes starting from carborane-substituted 1,2-Diphosphetanes“ (poster presentation)

03/2016