

WESTFÄLISCHE
WILHELMS-UNIVERSITÄT
MÜNSTER

5th
MÜNSTER SYMPOSIUM
ON
**COOPERATIVE EFFECTS
IN CHEMISTRY**

2014
May 9th

Münster,
Germany

Book of Abstracts



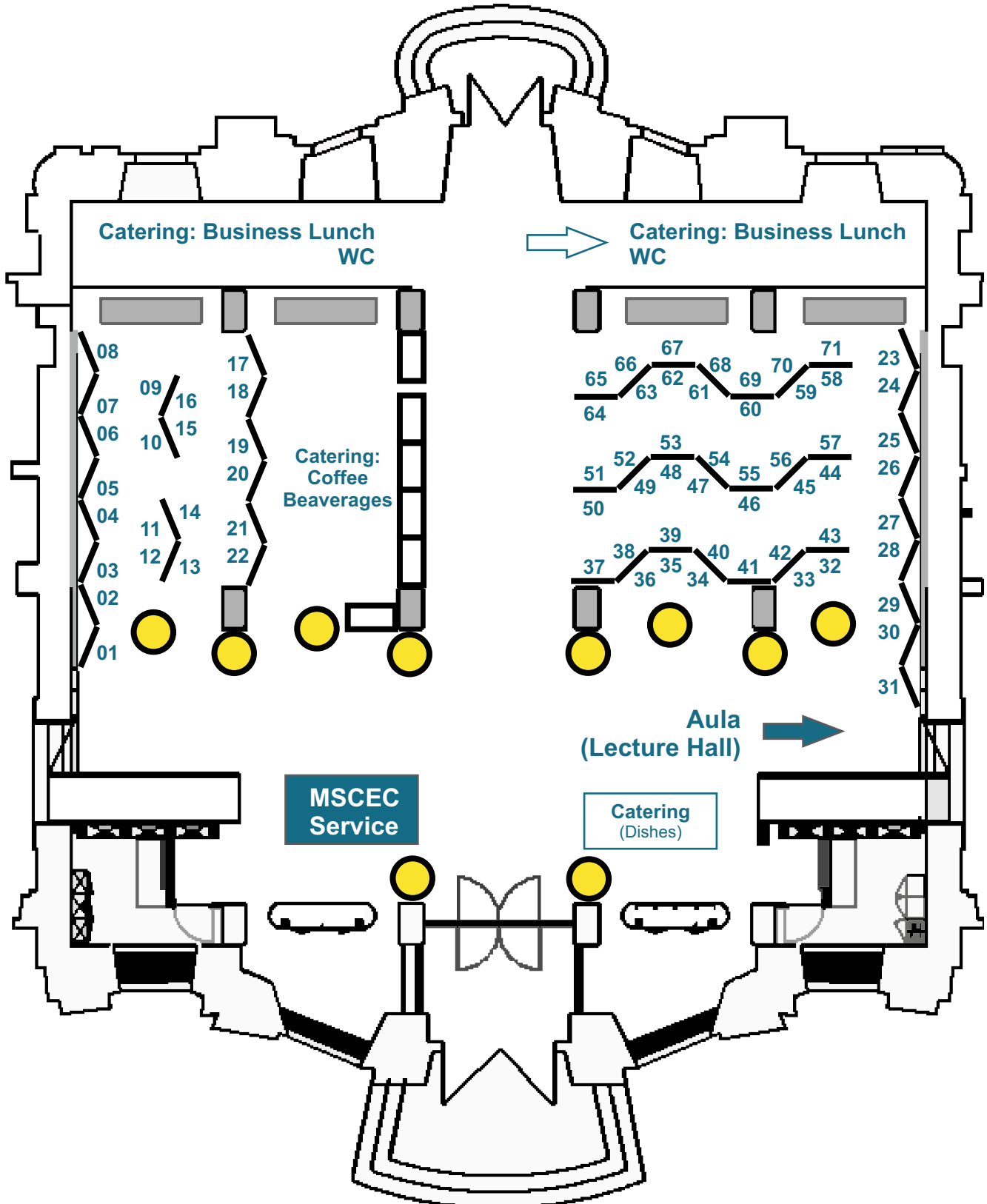
**SFB
858**

Symposium Schedule

Friday, May 9th 2014, Aula, Schloss of the WWU Münster

- 9.55 am Opening
Armido Studer Spokesperson of the SFB 858
- 10.00 am **Ben L. Feringa** *Chair: Pol Besenius*
Rijksuniversiteit Groningen, NED
Cooperation in Dynamic Molecular Systems
- 11.00 am **Christopher W. Bielawski** *Chair: Mark P. Waller*
University of Texas at Austin, USA
Externally Regulated Chemistry
- 12.00 Business Lunch
- 12.30 pm **Symposium Poster Session**
- 2.15 pm **John F. Hartwig** *Chair: Ulrich Hennecke*
University of California at Berkeley, USA
Selective, Catalytic Functionalization of Aryl and Alkyl C-H Bonds
- 3.15 pm **MS_CEC Poster Prize Announcements** *Chair: Frank Glorius*
&
MS_CEC Young Researcher Awards 2014
Supitchaya Iamsaard (MSc),
Laboratory for Biomolecular Nanotechnology, MESA+ Institute for Nanotechnology,
University of Twente, Enschede, NED
Dr. Tanja Gaich,
Institut für Organische Chemie der Leibniz-Universität Hannover, GER
- 4.00 pm **Peter H. Seeberger** *Chair: Ulrich Hennecke*
Max-Planck-Institut für Kolloid- und Grenzflächenforschung,
Potsdam, GER
Automated Glycan Assembly as Basis for Chemical Glycomics
- 5.00 pm Closing Remarks

Garden Entrance (West)



Main Entrance (East)

Poster Contributions

in alphabetical order (presenting author's surname)

| Nr. | Authors | Institution | Title |
|-----|---|---|---|
| 01. | <u>Ismail Abdelshafy Abdelhamid</u> , Amr Mohamed Abdelmoniem, Holger Butenschön* | Leibniz Universität Hannover | Cycloadditions of Benzo[1,2:4,5]dicyclobutenones with <i>N</i> -methylmaleimide |
| 02. | <u>Sema Akyol Dincer</u> , <u>Julia Westphal</u> , Sohajl Movahhed, Mehmet Dindaroğlu, Hans-Günther Schmalz* | Universität zu Köln | New modular chiral <i>P,P</i> -ligands and their application in enantioselective hydrovinylation and allylation reactions |
| 03. | <u>Sören Asmus</u> , Stephan Beckendorf, Mercedes Zurro, Christian Mück- Lichtenfeld, Roland Fröhlich, Olga García Mancheño* | Universität Regensburg, WWU Münster / SFB 858 | C–H Bond-Based BisTriazole Anion-Binding Organocatalysts: Getting more insight into a complex system! |
| 04. | <u>Marialuisa Aufiero</u> , Fabien Proutiere, Franziska Schoenebeck* | ETH Zürich, RWTH Aachen | Insight on the Influence of Copper Additives in Pd(0) Catalysis |
| 05. | <u>Francisco Aznarez</u> , Manuel Iglesias, Luis A. Oro, F. Ekkehardt Hahn* | WWU Münster / SFB 858, University of Zaragoza | Complexes Bearing Bidentate NH,NR- NHC Ligands and their Application in the Catalytic Reduction of Imines |
| 06. | <u>Dennis Barton</u> , Johannes Neugebauer* | WWU Münster / SFB 858 | Towards a Wavefunction-in-DFT Embedding Implementation for Adsorption Phenomena and Surface Reactions |
| 07. | <u>Katrin Belger</u> , Norbert Krause* | Technische Universität Dortmund | Ammonium Salt tagged unsaturated <i>N</i> -Heterocyclic Carbene Gold Complexes |
| 08. | <u>Nicolas Brauckhoff</u> , Gernot Hahne, Tom N. Grossmann* | Technische Universität Dortmund, MPI Dortmund | Protein-Templated Peptide Ligation |
| 09. | <u>Hannes Buhl</u> , Christian Ganter* | Heinrich-Heine-Universität Düsseldorf | Tuning the electronic properties of an <i>N</i> -heterocyclic carbene by charge and mesomeric effects |
| 10. | <u>Hülya Calik</u> , Norbert Krause* | Technische Universität Dortmund | Synthesis and Application of a Water Soluble β -Cyclodextrin-NHC-Gold Complex |

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|-----|--|--|--|
| 11. | Johanna Trenner, <u>Christian Depken</u> , Thomas J. Weber, Alexander Breder* | Georg-August-Universität Göttingen | Selenium-Catalyzed Oxidative Allylic and Vinylic Amination of Unactivated Alkenes |
| 12. | <u>Jaika Dörfler</u> , Sven Doye* | Carl von Ossietzky Universität Oldenburg | Regioselective Hydroaminoalkylation of Styrenes |
| 13. | <u>Thomas Dresselhaus</u> , Stefan Knecht, Markus Reiher, Johannes Neugebauer* | WWU Münster / SFB 858, ETH Zürich | DMRG-in-DFT Embedding |
| 14. | <u>Patrick Drücker</u> , Milena Pejic, David Grill, Volker Gerke*, Hans-Joachim Galla* | WWU Münster / SFB 858 | Cooperative binding of Annexin A2 and derivatives on cholesterol and phosphatidylinositol-4,5-bisphosphate containing solid supported membranes |
| 15. | <u>Burkhon Elmuradov*</u> , Holger Butenschön, Khusnutdin Shakhidoyatov | Leibniz Universität Hannover, Academy of Sciences of Uzbekistan | Synthesis of novel 6-H(substituted)- α - ferrocenylidene-mackinazolines |
| 16. | <u>Martin Elstner</u> , Alexander Schiller* | Friedrich-Schiller Universität Jena | On the way to a sugar computer – algorithm driven approach for chemical logic gate integration |
| 17. | <u>Eva-Corinna Fritz</u> , <u>Corinna Nimphius</u> , Martin Peterlechner, Bart Jan Ravoo*, Frank Glorius* | WWU Münster / SFB 858 | Bifunctional Ligand Design Allowing Spatially Controlled Ag(I) deposition on Gold Nanoparticles |
| 18. | <u>Adrian Glas</u> , David Bier, Gernot Hahne, Christian Ottmann, Tom N. Gossmann* | Technische Universität Dortmund, MPI Dortmund, Technical University Eindhoven | Peptides with constrained irregular secondary structure as inhibitors of protein-protein interactions |
| 19. | <u>Elisa González-Fernández</u> , Jörg Rust, Manuel Alcarazo* | MPI Mülheim | Synthesis and Reactivity of Metal Complexes with Acyclic (Amino)- (Ylide)Carbene Ligands |
| 20. | <u>Frederik Heins</u> , Jelto Freese, F. Ekkehardt Hahn* | WWU Münster / SFB 858 | Amphiphilic N-Heterocyclic Germylenes and Stannylenes |

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| 21. | <u>Katharina Holz</u> , Doreen Schütze, Julian Müller, Ulrich Lüning*, Martin K. Beyer, Bernd Hartke | Christian-Albrechts-Universität zu Kiel | A 1,2,3-Triazole for Mechanical Induced 1,3-Dipolar Cycloreversion |
| 22. | <u>Chien-Chi Hsiao</u> , Hsuan-Hung Liao, Erli Sugiono, Magnus Rueping* | MPI Mülheim | Shedding Light on Organocatalysis - Light-Driven Brønsted Acid Catalyzed Asymmetric Hydrogenations |
| 23. | <u>Supitchaya Jamsaard</u> , Sarah J. Abhoff, Benjamin Matt, Tibor Kudernac, Jeroen J. L. M. Cornelissen, Stephen P. Fletcher*, Nathalie Katsonis* | University of Twente, Enschede, University of Oxford | Conversion of light into macroscopic helical motion |
| 24. | <u>Jennifer Isermann</u> , <u>Matthias Willeke</u> , Werner Uhl* | WWU Münster / SFB 858 | Generation of New Ga-N Based Lewis-Pairs for Bifunctional Activation |
| 25. | <u>Hanpeng Jin</u> , F. Ekkehardt Hahn* | WWU Münster / SFB 858 | Synthesis of transition Metal NHC and MIC Complexes via oxidative addition of azoles |
| 26. | <u>Matthias Klaper</u> , Torsten Linker* | Universität Potsdam | Evidence for an Oxygen Anthracene Sandwich Complex |
| 27. | <u>Alexander Kleinsmann</u> , Boris J. Nachtsheim* | Eberhard Karls Universität Tübingen | Minimalistic Peptide- and Uracil-based Hydrogelators |
| 28. | <u>Felix Klotter</u> , Armido Studer* | WWU Münster | Total Synthesis of Resveratrol-Based Natural Products |
| 29. | <u>Julius F. Kögel</u> , Borislav Kovačević, Jörg Sundermeyer* | Philipps-Universität Marburg | The Use of Strong Cooperative Effects for the Design of Superbasic Bisphosphazene Proton Sponges |
| 30. | <u>Ágnes Kozma</u> , Gopinadhanpillai Gopakumar, Christophe Farès, Walter Thiel, Manuel Alcarazo* | MPI Mülheim | Synthesis and Structure of Carbene-Stabilized N-Centered Cations $[L_2N]^+$, $[L_2NR]^{2+}$, $[LNR_3]^{2+}$ and $[L_3N]^{3+}$ |

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| 31. | <u>Robert Kretschmer*</u> , Maria Schlangen, Helmut Schwarz | Technische Universität Berlin | Single and Double N-H Bond Activation of Ammonia by $[Al_2O_3]^{++}$: Room-Temperature Formation of the Aminyl Radical and Nitrene |
| 32. | <u>Sadhana Kumbhar</u> , Jack Yang, Mark P. Waller* | WWU Münster / SFB 858 | A Density Based Adaptive QM/MM Approach for Complex (Bio-)Chemical Systems |
| 33. | <u>Quentin Lefebvre</u> , Eleonora Fava, Pavlo Nikolaienko, Magnus Rueping* | MPI Mülheim | Simple and Double Trifluoromethylthiolation of α -Diazoesters |
| 34. | <u>Linda Lempke</u> , Tobias Fischer, Knut Rurack, Norbert Krause* | Technische Universität Dortmund | Gold-Catalyzed Cycloisomerization of Fluorinated Allenes: Application in BODIPY-Synthesis |
| 35. | <u>Susanne Liese</u> , Jonathan Vonnemann, Daniel Lauster, Sumati Bathia, Andreas Herrmann, Rainer Haag, Roland R. Netz* | Freie Universität Berlin, Humboldt Universität zu Berlin | Effective Interaction between globular, multivalent target-inhibitor-systems |
| 36. | <u>Johanna Moratz</u> , <u>Tobias Otremba</u> , Bart Jan Ravoo* | WWU Münster / SFB 858 | Biomimetic Carbohydrate Receptors in Solution and on Liposome Surfaces |
| 37. | <u>Niels Münster</u> , Jonas Schwaben, Ulrich Koert* | Philipps-Universität Marburg | Synthesis and Properties of novel Pentacenes and Benzophenazines |
| 38. | <u>Rishikesh Narayan</u> , Jonathan O. Bauer, Carsten Strohmann, Andrey P. Antonchick*, Herbert Waldmann* | MPI Dortmund, Technische Universität Dortmund | Catalytic Enantioselective Synthesis of Functionalized Tropanes Reveals Novel Inhibitors of Hedgehog Signaling |
| 39. | <u>Marcus Niehaus</u> , Norbert Krause* | Technische Universität Dortmund | Sustainable Approaches in Transition Metal-catalyzed Cycloisomerization of Propargylic ureas |
| 40. | <u>Santhosh Kumar Podiyanchari</u> , Gerald Kehr, Roland Fröhlich, Constantin G. Daniliuc, Jeffrey L. Petersen, Christian Müick-Lichtenfeld, Gerhard Erker* | WWU Münster / SFB 858 | Unusual Behavior of a Bifunctional Alkynylborane Zirconocene Complex Toward Small Molecules, Donor Ligands and Acetylenes |

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|-----|---|--|--|
| 41. | <u>Marco Potowski</u> , Andrey P. Antonchick*, Herbert Waldmann* | MPI Dortmund, Technische Universität Dortmund | Cooperative Effects in Catalysis and Biology |
| 42. | <u>Eduard Rais</u> , Maximilian Koppenwallner, René Wilhelm* | Universität Paderborn | New Chiral <i>N</i> -Heterocyclic Carbenes Based on Camphoric Acid |
| 43. | <u>Yannick Rey</u> , Christof Sparr, Eva-Maria Tanzer, Lucie E. Zimmer, W. Bernd Schweizer, Hans Martin Senn,* Sami Lakhdar,* Ryan Gilmour* | WWU Münster / SFB 858, ETH Zürich | Molecular Design Exploiting a Fluorine Gauche Effect as a Stereoelectronic Trigger |
| 44. | <u>Christian Richter</u> , Kira Schaepe, Frank Glorius*, Bart Jan Ravoo* | WWU Münster / SFB 858 | Tailor-made <i>N</i> -Heterocyclic Carbenes for Nanoparticle Stabilization |
| 45. | <u>Tim Richters</u> , Jens Müller* | WWU Münster / SFB 858 | A family of 1,2,3-triazol-based Ag(I)-mediated base pairs |
| 46. | <u>Sabrina Schick</u> , F. Ekkehardt Hahn* | WWU Münster / SFB 858 | Mono- and Dinuclear Complexes bearing Biscarbene Ligands with very small Carbene Distance |
| 47. | <u>Birgitta Schirmer</u> , Verena Blase, Johannes Neugebauer* | WWU Münster / SFB 858 | Thermodynamic and Mechanistic Investigations on the Formation of a Tungsten-Based Catalyst Precursor |
| 48. | Andreas Gansäuer*, Michael Dolg, <u>Sandra Schlembach</u> , Karsten Knebel J. Arnold, Verena Jakoby | Rheinische Friedrich-Wilhelms-Universität Bonn | Enantiomerically pure Titanocenes as Functional Templates |
| 49. | <u>Danny Schlüns</u> , Bernhard Beiring, Christian Mück-Lichtenfeld, Frank Glorius, Johannes Neugebauer* | WWU Münster / SFB 858 | Identifying the Active Species of a Ru-Based Hydrogenation Catalyst |
| 50. | <u>Dirk Schlüter</u> , Hannes Schäfer, Vladimir A. Azov* | Universität Bremen | Modifications of Calix[4]arene-Tetrathiafulvalene Receptors on the Lower and Upper Rims |

Poster Contributions

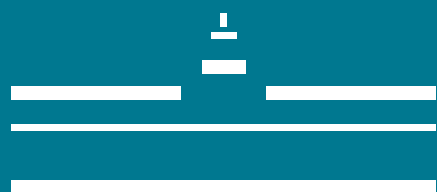
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|-----|---|--|--|
| 51. | <u>Jonas Schwaben</u> , Klaus Harms, Ulrich Koert* | Philipps-Universität Marburg | Towards the total synthesis of Synoxazolidinone A |
| 52. | <u>Darius D. Schwarzer</u> , Tanja Gaich* | Leibniz Universität Hannover | How to "COPE" with the prenylation of the indole C4-position |
| 53. | <u>Bertrand Schweitzer-Chaput</u> , Demaerel Joachim, Hauke Engler, Martin Klussmann* | MPI Mülheim | Brønsted acid catalysed generation of radicals: Oxidative addition of ketones to olefins |
| 54. | Pavel Lulchev, <u>Nafiseh Soltanmohammadi</u> , Dagmar Klostermeier* | WWU Münster / SFB 858 | Dissecting inter-domain interactions in reverse gyrase toward understanding of positive DNA supercoiling |
| 55. | Juan Antonio Nicasio, <u>Sebastian Steinberg</u> , Blanca Inés, Manuel Alcarazo* | MPI Mülheim | Tuning the Lewis Acidity of Boranes in Frustrated Lewis Pair Chemistry: Implications for the Hydrogenation of Electron-poor Alkenes |
| 56. | <u>Hendrik Tinnermann</u> , Christian Wille, Manuel Alcarazo* | MPI Mülheim | Synthesis, Structure and Applications of Pyridiniumphosphines |
| 57. | <u>Muborak Tulyasheva</u> , Aminjon Karimov, Khusnutdin Shakhidoyatov* | Tashkent Pharmaceutical Institute, Uzbekistan | 2-Phenylquinazolin-4-ylidenecyanoacetic Acid Ethyl Ester: the synthesis, tautomeric states and crystal structure |
| 58. | <u>Magdalena Uzarewicz-Baig</u> , René Wilhelm* | Universität Paderborn | Synthesis of Chiral Diamines based on Camphor via a Buchwald-Hartwig Amination and their application as ligands in the Henry Reaction |
| 59. | Annika Liske, <u>Kathrin Verlinden</u> , Hannes Buhl, Klaus Schaper, Christian Ganter* | Heinrich-Heine-Universität Düsseldorf | Determining the π -acceptor properties of N-heterocyclic carbenes by measuring the ^{77}Se NMR chemical shifts of their selenium adducts |
| 60. | <u>Jens Voskuhl</u> , Carmen Stoffelen, Shrikrishnan Sankaran, Emanuela Cavatorta, Jurriaan Huskens, Pascal Jonkheijm* | University of Twente, Enschede | Photoresponsive Supramolecular Materials |

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|-----|--|---------------------------------------|--|
| 61. | <u>Bernd Wagner</u> , Norbert Krause* | Technische Universität Dortmund | Gold-Catalyzed Three-Component Spirocyclization: A One-Pot Approach to Substituted Pyrazolidines |
| 62. | <u>Michaela Wahl</u> , Abdelaziz Makhoulfi, Christian Ganter* | Heinrich-Heine-Universität Düsseldorf | A New Mixed Amino–Amido N-Heterocyclic Carbene Based on Anthranilic Acid |
| 63. | <u>Jonas Warneke</u> , Z. Wang, Vladimir A. Azov* | Universität Bremen | Methacryloyl chloride dimers: from structure elucidation to a manifold of chemical transformations |
| 64. | <u>Anja Wiegand</u> , Norbert Krause* | Technische Universität Dortmund | Synthesis of Carbohydrate-Containing NHC-Gold-Complexes |
| 65. | <u>Michael Wilking</u> , Constantin-Gabriel Daniliuc, Ulrich Hennecke* | WWU Münster / SFB 858 | Catalytic Enantioselective Halolactonizations of Alkynoic Acids |
| 66. | <u>Jens Willwacher</u> , Alois Fürstner* | MPI Mülheim | Catalysis-Based Total Synthesis and Structure Reassignment of Mandelalide A |
| 67. | <u>Veera Reddy Yatham</u> , Silvia Elfert, Jörg-M. Neudörfl, Albrecht Berkessel* | Universität zu Köln | Characterization of the Key Intermediates in NHC Organocatalysis |
| 68. | <u>Da-Gang Yu</u> , Francisco de Azambuja, Mamta Suri, Tobias Gensch, Frank Glorius* | WWU Münster | Cooperation Effect and Dual Catalysis Play Well - Diversity-Oriented Synthesis of Heterocycles via RhIII-Catalyzed C–H Bond Activation |
| 69. | <u>Gang Zhang</u> , Oliver Presly, Fraser White, Iris M. Oppel, Michael Mastalerz* | Universität Heidelberg | Nano-sized shape-persistent organic cage compounds |
| 70. | <u>Alexander Zhdanko</u> *, Martin. E. Maier* | Universität Tübingen | Mechanisms of gold(I) catalyzed hydroalkoxylation and hydroamination of alkynes |
| 71. | <u>Alexander Zhdanko</u> *, Martin. E. Maier* | Universität Tübingen | Gold(I), Palladium(II), Platinum(II) and Mercury(II) catalyzed Spirocyclization of 1,3-Enynediols |



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**The Collaborative Research Center
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“Synergetic Effects in Chemistry - From Additivity towards Cooperativity“

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DFG



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