

## Program overview



### **1st combined external doctoral students workshop Graduate Schools SFB 765 and 858**

Date: 06. - 08. March 2013

Location: Best Western Hotel Rheinsberg, Wolfsbruch 3, 16831 Rheinsberg

#### **Wednesday, March 06**

- 18.00      *Arrival  
Meet and Greet  
Dinner*

#### **Thursday, March 07**

##### Chair: Christian Sieben

08:30 - 09:00      Lena Kaufmann (AG Schalley, FU)  
*Multivalency as Key Principle for Efficient Synthesis of  
Supramolecular Architectures*

09:00 - 09:30      Florian Paulus (AG Haag, FU)  
*Synthesis of Dendritic Polyglycerol Architectures with  
Hydrophobic and Hydrophilic Domains*

09:30 - 10:00      Jonas Möllmann (AG Grimme, WWU)  
*A DFT-D3 Study of Structural and Energetic Properties of TiO<sub>2</sub>  
Modifications*

10:00 - 10:20      *Coffee Break*

##### Chair: Christian Richter

10:20 - 10:50      Benjamin Stein (AG Graf, FU)  
*Highly Improved Stability of Naked Gold Nanoparticles by  
in-situ Coating of Mono and Multivalent Thiol PEG Ligands*

10:50 - 11:20      Manuel Gensler (AG Rabe, HU)  
*Dissociation behavior of pyridine coordination compounds in  
aqueous solutions*

11:20 - 11:50      Francisco Aznarez (AG Hahn, WWU)  
*Synthesis of Complexes Bearing Bidentate NH,NR-NHC  
Ligands and Studies on their Formation Pathway*

12:00 - 13:30 *Buffet Lunch*

Chair: Jonathan Vonnemann

13:30 - 14:00 Julia Hütter (AG Lepenies, MPI)  
*Multivalent carbohydrate/lectin and carbohydrate/carbohydrate interactions for cell-specific targeting and imaging*

14:00 - 14:30 Michael Wilking (AG Hennecke, WWU)  
*DNA-based asymmetric catalysis*

14:30 - 15:00 Valentin Reiter (AG Rabe, HU)  
*Single-Virus Force Measurements on sialic acid*

15:00 - 17:00 **Poster presentation** and coffee break

Chair: Jennifer Krings

17:00 - 18:00 external presentation

18:00 - 18:30 Daniel Lauster (AG Herrmann, HU)  
*New multivalent architectures interacting with viral envelope proteins*

18:30 - 19:00 Markus Erdmann (AG Erker, WWU)  
*Functional group chemistry at intramolecular frustrated Lewis pairs: substituent exchange at the Lewis acid site with 9-BBN*

19:00 - 19:30 Dominic Gröger (AG Haag, FU)  
*Anionic Polymers for Biomedical Applications*

19:30 - *Dinner*

### **Friday, March 08**

Chair: Manuel Gensler

08:30 - 09:00 Elsa Zacco (AG Kokschi, FU)  
*Synthetic glycopeptides for the multivalent presentation of ligands to biological macromolecules*

09:00 - 09:30 David Robert Matuschek (AG Studer, WWU)  
*From planar Verdazyl radicals towards fluorescent Verdazyl-mediated living radical polymerization*

09:30 - 10:00 Daniela Ponader (AG Hartmann, MPI)  
*Sequence-Defined Heteromultivalent Glycopolymers for Studies on Multivalent Binding Modes*

10:00 - 10:15                      *Coffee break*

Chair: Barbara Dettlaff

10:15 - 10:45                      Stefanie C. Lange (AG Ravoo, WWU)  
*Supramolecular Polymers Driven by Host-stabilized Charge  
Transfer Interactions*

10:45 - 11:15                      Jennifer Isermann (AG Uhl, WWU)  
*Oligomerisation of cyanamides catalysed by aluminum-nitrogen  
based Lewis pairs*

11:15 - 11:45                      Zhenhui Qi (AG Schalley, FU)  
*The gel story @ AG Schalley*

11:45 - 12:15                      Emanuel Fleige (AG Haag, FU)  
*Dendritic Core-Multishell Nanocarriers for the Delivery of  
Active Compounds*

12:15 - 12:30                      *Concluding remarks, poster price, open discussion*

*End of the Meeting*

12:30 - 14:00                      *Buffet Lunch*

## Talk Contributions in alphabetical order

	<b>Speaker</b>	<b>Institution</b>	<b>Title</b>
1.	Francisco Aznarez	WWU Münster	Synthesis of Complexes Bearing Bidentate NH,NR-NHC Ligands and Studies on their Formation Pathway
2.	Markus Erdmann	WWU Münster	Functional group chemistry at intramolecular frustrated Lewis pairs: substituent exchange at the Lewis acid site with 9-BBN
3.	Emanuel Fleige	FU Berlin	Dendritic Core-Multishell Nanocarriers for the Delivery of Active Compounds
4.	Manuel Gensler	HU Berlin	Dissociation behavior of pyridine coordination compounds in aqueous solutions
5.	Dominic Gröger	FU Berlin	Anionic Polymers for Biomedical Applications
6.	Julia Hütter	MPI/FU Berlin	Multivalent carbohydrate/lectin and carbohydrate/carbohydrate interactions for cell-specific targeting and imaging
7.	Jennifer Isermann	WWU Münster	Oligomerisation of cyanamides catalysed by aluminum-nitrogen based Lewis pairs
8.	Lena Kaufmann	FU Berlin	Multivalency as Key Principle for Efficient Synthesis of Supramolecular Architectures
9.	Stefanie C. Lange	WWU Münster	Supramolecular Polymers Driven by Host-stabilized Charge Transfer Interactions
10.	Daniel Lauster	HU Berlin	New multivalent architectures interacting with viral envelope proteins
11.	David R. Matuschek	WWU Münster	From planar Verdazyl radicals towards fluorescent Verdazyl-mediated livingradical polymerization
12.	Jonas Moellmann	WWU Münster	A DFT-D3 Study of Structural and Energetic Properties of TiO <sub>2</sub> Modifications
13.	Florian Paulus	FU Berlin	Synthesis of Dendritic Polyglycerol Architectures with Hydrophobic and Hydrophilic Domains

## Talk Contributions in alphabetical order

- |     |                 |             |  |
|-----|-----------------|-------------|--|
| 14. | Daniela Ponader | FU Berlin   | Sequence-Defined Heteromultivalent Glycopolymers for Studies on Multivalent Binding Modes                            |
| 15. | Zhenhui Qi      | FU Berlin   | The gel story @ AG Schalley  |
| 16. | Valentin Reiter | HU Berlin   | Single-Virus Force Measurements on sialic acid   |
| 17. | Benjamin Stein  | FU Berlin   | Highly Improved Stability of Naked Gold Nanoparticles by in situ Coating with Mono and Multivalent Thiol PEG Ligands |
| 18. | Michael Wilking | WWU Münster | DNA-based asymmetric catalysis   |
| 19. | Elsa Zacco      | FU Berlin   | Synthetic glycopeptides for the multivalent presentation of ligands to biological macromolecules                     |

## Poster Contributions in alphabetical order

	<b>Main Author</b>	<b>Institution</b>	<b>Title</b>	<b>Poster</b>
1.	Frank Abenroth	HU Berlin	DNA-triggered bivalent presentation of ligands for the estrogen receptor $\alpha$	P38
2.	Lukas Artner	FU Berlin	Proteins as Multivalent Binding Platforms	P27
3.	Francisco Aznarez	WWU Münster	Synthesis of Complexes Bearing Bidentate NH,NR-NHC Ligands and Studies on their Formation Pathway	P35
4.	Victor Bandlow		Multivalent presentation of Sialyl-LacNAc-ligands via PNA/DNA-duplexe	P41
5.	Sebastian Berg	WWU Münster	DYNAMIC REACTIONS ON THE SURFACE OF LIPOSOMES	P32
6.	Jordi Bertran-Vicente	FU Berlin	Chemoselective synthesis of phosphorylated lysine-containing peptides by the Staudinger-Phosphite reaction	P13
7.	Frederik Brenner	FU Berlin	Systematic Studies of the Functionalization of Anisotropic Gold Nanoparticles	P29
8.	Jan Daldrop	FU Berlin	Free-energy calculations towards understanding the driving factors of polyglutamine aggregation	P6
9.	Barbara Dettlaff	WWU Münster	“Too Big to Escape” - The Immobilization of Metallated Dendrimers Into Poly(p-xylylene) Nanotubes and their use in catalysis	P44
10.	Stephan Ehrlich	WWU Münster	Dispersion-Corrected Density Functional Theory for Aromatic Interactions in Complex Systems	P11
11.	Eva-Corinna Fritz	WWU Münster	SPR Analysis of Metal Ion Binding using Bifunctional Bioxazoline Ligands	P7
12.	Christian Goroncy	FU Berlin	Multifunctional Metal Oxide Nanoparticles with Multivalent dPG-Ligand for Medical Diagnosis	P45

## Poster Contributions in alphabetical order

13.	Christian Grunewald	FU Berlin	Structuring of surfaces at the nanometer scale to modify multivalent interactions	P26
14.	Markus Hellmund	FU Berlin	PG-based Nanogels for in vitro studies	P25
15.	Lisa Henning	FU Berlin	Multivalent Protein-Protein-Interactions of WW-Domains and Proline-Rich Sequences	P39
16.	Yu Jiangang	WWU Münster	Reaction of functional enyne with Piers' borane: An easy entry to prepare methyleneborates	P20
17.	Xing Jin	WWU Münster	Reactions of Unsaturated Polynitrogen Compounds with Aluminium Reagents	P4
18.	Maja Kandziora	FU Berlin	Synthesis of Enantiopure Aminopyrans and their Carbohydrate Mimetics	P30
19.	Jennifer Krings	WWU Münster	Light-Responsive Self-Assembly of Cyclodextrin Covered Silica-Nanoparticles	P24
20.	Christian Kühne	FU Berlin	Catch me if you can: Ligand binding studies of mutated L-selectin receptor molecules	P34
21.	Sadhana Kumbhar	WWU Münster	QM/MM modeling for bio-molecular systems	P14
22.	Igor Linder	FU Berlin	A Highly Efficient Self-Assembly of Di- to Hexavalent Hosts with Predefined Geometry for Investigation of the Multivalent Binding	P36
23.	Michaela Marczynke	FU Berlin	Self-Assembled, Bivalent DNA-Peptid-Complexes for Spatial Screening of the tSH2-domain in ZAP-70	P3
24.	David R. Matuschek	WWU Münster	From planar Verdazyl radicals towards fluorescent Verdazyl-mediated livingradical polymerization	P22
25.	Jonas Moellmann	WWU Münster	A DFT-D3 Study of Structural and Energetic Properties of TiO <sub>2</sub> Modifications	P43

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26.	Nicole Nischan	FU Berlin	Inhibition of Clathrin Mediated Endocytosis by Multivalent EPS15-Peptides Modified by Staudinger-Phosphite-Lipidation	P12
27.	Daniel Paul	WWU Münster	ASYMMETRIC HYDROGENATION OF THIOPHENES AND BENZOTHIOPHENES CATALYZED BY A RUTHENIUM-NHC COMPLEX	P8
28.	Sabine Reimann	FU Berlin	Biodegradable Polyanions as Anti-inflammatory Agents	P15
29.	Oliver Reimann	FU Berlin	Exploring abnormal Tau phosphorylation by semisynthetic means	P5
30.	Simon Reiske	FU Berlin	Synthesis of unprotected phosphoramidates and their biological recognition	P10
31.	Christian Richter	WWU Münster	Enantioselective $\alpha$ -Arylation of Cyclic Ketones Catalyzed by a Combination of an Unmodified Cinchona Alkaloid and a Pd Complex	P1
32.	Christian Rösner	WWU Münster	Enantioselective Haloetherification Reactions by Asymmetric Opening of meso-Haloniums Ions	P16
33.	Joana Salta	FU Berlin	Synthesis and Evaluation of New Multivalent Carbohydrate Mimetics	P33
34.	Alexander Schlaich	FU Berlin	Hydration repulsion between biological membranes	P40
35.	Christian Schulte to Brinke	WWU Münster	Homo and Heteronuclear Metal Complexes with Cyclic Tetracarbene Ligands	P37
36.	Christian Sieben	HU Berlin	Inhibition of influenza virus A activity by using sialic-acid conjugated multivalent nanoparticles	P28
37.	Michael Staegemann	FU Berlin	Conjugates of Porphyrins and Hyperbranched Polyglycerols for an Application in Photodynamic Therapy	P2
38.	Sabrina Surmiak	WWU Münster	Synthesis and characterisation of mesoporous B-, P- and N-functionalized Silica-Nanoparticles	P42



## Poster Contributions in alphabetical order

39.	Dan-Tam Daniel Tang	WWU Münster	Highly C3-selective and ligand-free Pd/C catalyzed C–H arylation of benzo[b]thiophene	P19
40.	Daniel Trawny	FU Berlin	Synthesis of Star-shaped Multivalent Pyridine Derivatives and Complex Chemistry at Surfaces	P31
41.	Ariane Tschiche	FU Berlin	Glycine-Terminated Amphiphilic PG Dendrons for siRNA Delivery	P6
42.	Jonathan Vonnemann	FU Berlin	Polysulfated Nanostructures for the Targeting of Inflammation	P23
43.	Xiaowu Wang	WWU Münster	The Third Dimension of Salicylaldimine-Type Ligand Systems and Their Zirconium Complexes in Ethylene Polymerization Chemistry	P18
44.	Benjamin Ziem	FU Berlin	Plumbago becomes Graphite	P17
45.	Mercedes Zurro de la Fuente	WWU Münster	Synthesis of novel polytriazole-based structures for anion acceptor catalysis	P21