Monday, 18 March 2019

12:00 – 14:00 Registration

14:00 – 14:15 Opening
Ines Neundorf, Symposium Chair, University of Cologne

Welcome Address
Günter Schwarz, Dean of Faculty of Mathematics and Natural Sciences, University of Cologne

Session 1: Peptide Discovery and Protein-Protein Interactions

14:15 – 15:00 New tools for studying epigenetic protein-peptide interactions
Marcey L. Waters, UNC Chapel Hill, USA

15:00 – 15:20 Formylglycine-containing peptides enable the discovery of phosphotyrosinemimetic fragments for the validation of proteins as cancer targets
Jörg Rademann, FU Berlin, Germany

15:20 – 15:40 E-64c-Hydrazide-based cathepsin C inhibitors
Norbert Schaschke, HS Aalen, Germany

15:40 – 16:00 Lessons learned from disrupting protein–protein interactions of protein-phosphatase-1 with peptides
Maja Köhn, University of Freiburg, Germany

16:00 – 16:30 Coffee Break

Session 2: Peptides in Biomedical application

16:30 – 17:15 Intrinsic cell-penetrating activity propels Omomyc from proof of concept to viable anti-Myc therapy
Marie-Eve Beaulieu, Peptomyc S.L., Barcelona, Spain

17:15 – 17:35 Bacterial life based on fluorinated amino acids
Beate Koksch, FU Berlin, Germany

Selected short poster talks (5 minutes each)

17:35 – 17:40 Optimization of a receptor mimetic peptide
Karen Fiebig, University of Erlangen, Germany

17:40 – 17:45 mRNA-Templated Synthesis of Dual-Activity Inducers of Apoptosis
Yannic Altrichter, HU Berlin, Germany

17:45 – 17:50 Adaptation towards fluorinated proteomes
Christin Treiber, FU Berlin, Germany

17:50 – 17:55 Albicidin – Optimization and Structure-Activity Relationship Studies of a Highly Potent Class of Antibiotics
Iraj Behroz, TU Berlin, Germany

17:55 – 18:00 Method development for the isolation and characterization of peptoids from one-bead-one-compound libraries for the inhibition of interleukin-8
Julia Wack, TU Darmstadt, Germany

18:00 – 18:05 Probing membrane fusion with artificial SNARE analogues
Pirajeev Selvachandran, University of Göttingen, Germany

18:05 – 18:10 Functionalized coiled-coil peptide hydrogels as extracellular matrix mimics
Katharina Hellmund, FU Berlin, Germany

18:10 – 18:15 His/Tyr-based peptide motifs to study regulatory heme binding
Benjamin Syllwasschy, University of Bonn, Germany

18:15 – 18:20  **N-terminal derived peptides of vaspin as cell penetrating peptides**
Catherine Tindall, University of Leipzig, Germany

18:20 – 18:25  **Peptides developed as kinase-specific substrates for antibody-free multicolor TR-FRET-based screening of kinase inhibitors in high throughput**
J. L. Heier, Minneapolis, USA

18:30 – 20:00  **Poster Session I with Lite Bites and Beer**
Presentation of even poster numbers
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 3: Protein-Protein Interactions / Peptide Discovery and Bioconjugation</th>
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<tbody>
<tr>
<td>9:00 – 9:45</td>
<td>Targeting protein-protein interactions of receptor complexes</td>
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<td>Kristian Stremgaard, University of Copenhagen, Denmark</td>
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<td>9:45 – 10:05</td>
<td>Peptides with (non-)covalent constraints to target protein-protein interactions</td>
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<td>Chiara Cabrele, University of Salzburg, Austria</td>
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<tr>
<td>10:05 – 10:25</td>
<td>Investigating acetyl-lysine binding modules with peptide-based probes</td>
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<td>Dirk Schwarzer, University of Tübingen, Germany</td>
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<td>10:25 – 10:45</td>
<td>Chemoselective Pd-catalyzed modification of cysteine-containing peptides and proteins</td>
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<td>Julia Kriegesmann, University of Vienna, Austria</td>
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<td>10:45 – 11:15</td>
<td>Coffee Break</td>
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<tr>
<td>11:15 – 11:35</td>
<td>Toward homogeneous glycoproteins via auxiliary-assisted sequential glycosylation and ligation of peptides</td>
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<td>Claudia Bello, University of Vienna, Austria</td>
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<td>11:35 – 11:55</td>
<td>The effect of non-enzymatic modifications within the N- and C-terminal domain of the small heat shock protein Hsp27</td>
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<td>Christian F. W. Becker, University of Vienna, Austria</td>
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<td>11:55 – 12:15</td>
<td>Nanofiber-forming peptides as novel gelators in cell-supporting, injectable hydrogels</td>
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<td>Christoph Synatschke, MPI Polymer Research, Germany</td>
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<td>12:15 – 12:35</td>
<td>Heme-protein interactions from a peptide chemist’s view: From motivation to models, motifs, and assessment</td>
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<td>Diana Imhof, University of Bonn, Germany</td>
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<td>12:35 – 12:55</td>
<td>Microwave synthesis of peptides, peptide mimetics and new synthesis applications</td>
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<td>Monika Swiontek, CEM GmbH, Germany</td>
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<td>13:00 – 14:30</td>
<td>Lunch</td>
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<tr>
<th>Time</th>
<th>Session 4: Peptide Discovery and Biomedical Application of Peptides</th>
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<tr>
<td>14:30 – 15:15</td>
<td>Towards the development of orally available cyclic peptides</td>
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<td>Christian Heinis, EPFL, Switzerland</td>
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<tr>
<td>15:15 – 15:35</td>
<td>Multicomponent strategies to side bhain- and Backbone-modified cyclic peptides</td>
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<tr>
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<td>Manuel G. Ricardo, IPB Halle, Germany</td>
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<td>15:35 – 15:55</td>
<td>Bicyclic RGD-peptides with exquisite selectivity for the integrin αvβ3 and α5β1 receptors using a ‘Random Design’ approach</td>
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<td>D. Michel, Pepscan Therapeutics, The Netherlands</td>
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<td>15:55 – 16:15</td>
<td>In situ cyclization of proteins (INCYPRO): enzymes with stable tertiary structure</td>
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<td>Tom N. Grossmann, VU University Amsterdam, The Netherlands</td>
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<td>16:15 – 16:45</td>
<td>Coffee Break</td>
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<td>16:45 – 17:05</td>
<td>Modulation of Y1-receptor responses by chemically modified truncated NPY analogs</td>
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<td>Kathrin Bellmann-Sickert, University of Leipzig, Germany</td>
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<td>17:05 – 17:25</td>
<td>Octreotide conjugates for tumor targeting and imaging</td>
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Eduard Figueras Agostí, University of Bielefeld, Germany

17:25 – 17:45  *IsoDGR integrin ligands: a tool for targeted drug delivery*
Silvia Gazzola, Università dell’ Insubria Como, Italy

17:45 – 18:05  *A traceless catch-and-release method for rapid peptide purification and modification*
Robert Zitterbart, Belyntic GmbH Berlin, Germany

18:10 – 19:40  **Poster Session II** with Lite Bites and Beer
Presentation of odd poster numbers
### Session 5: Peptide Structure and Function

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>9:00 – 9:45</td>
<td>Foldamer-based protein mimicry and recognition</td>
<td>Ivan Huc</td>
<td>LMU München, Germany</td>
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<tr>
<td>9:45 – 10:05</td>
<td>Side chain orientation of tryptophan analogs determines agonism and inverse agonism in short ghrelin peptides</td>
<td>Sylvia Eis-Heindl</td>
<td>University of Leipzig, Germany</td>
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<tr>
<td>10:05 – 10:25</td>
<td>Stereoselective peptide modifications – efficient tools for natural product and drug synthesis</td>
<td>Uli Kazmeier</td>
<td>Saarland University, Germany</td>
</tr>
<tr>
<td>10:25 – 10:45</td>
<td>Regioselective dimerization of a tetra-cysteine peptide and its use as a dimerization domain for proteins</td>
<td>Armin Geyer</td>
<td>Marburg University, Germany</td>
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**Session 6: Biomedical Application of cell-permeable peptides**

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<th>Time</th>
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<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>11:15 – 12:00</td>
<td>Activatable cell penetrating peptides: click to enter</td>
<td>Dennis Löwik</td>
<td>Radboud University Nijmegen, The Netherlands</td>
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<tr>
<td>12:00 – 12:20</td>
<td>Cell-Penetrating Peptides as Penetration Enhancers of Proteins and Nanoparticles in 3D Tumor Models</td>
<td>Roland Brock</td>
<td>Radboud University, The Netherlands</td>
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<tr>
<td>12:20 – 12:40</td>
<td>Cell Penetrating Peptides: Euphoric Hope, various applications, till now two dozen Clinical Trials</td>
<td>Siegmund Reissmann</td>
<td>Friedrich-Schiller University Jena, Germany</td>
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<tr>
<td>12:40 – 13:10</td>
<td>Blood-brain barrier shuttle peptides, from discovery to applications</td>
<td>Meritxell Teizido</td>
<td>IRB Barcelona, Spain</td>
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**Session 7: Protein / Peptide Discovery and Novel Analytical tools**

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<tr>
<th>Time</th>
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<th>Speaker</th>
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<tbody>
<tr>
<td>14:40 – 15:25</td>
<td>Kinetics of Protein Aggregation</td>
<td>Tuomas Knowles</td>
<td>University of Cambridge, UK</td>
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<tr>
<td>15:25 – 15:45</td>
<td>Inhibition of amyloid self-assembly of insulin by designed peptides mimicking IAPP cross-amyloid interaction surfaces</td>
<td>Aphrodite Kapurniotu</td>
<td>TU München, Germany</td>
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<tr>
<td>15:45 – 16:05</td>
<td>Revealing the role of 33-mer gliadin oligomers in gluten related disorders</td>
<td>Veronica I. Dodero</td>
<td>University of Bielefeld, Germany</td>
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<tr>
<td>16:05 – 16:35</td>
<td>Coffee Break</td>
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<td>16:35 – 17:05</td>
<td>Expanding the genetic code – protein chemistry in living systems</td>
<td>Kathrin Lang</td>
<td>TU München, Germany</td>
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<td>17:05 – 17:35</td>
<td>From Peptide to Protein Chemistry: Expanding the Genetic Code with a Lysine Derivate Bearing the Enzymatically Removable Phenylacetyl Group</td>
<td>Henning D. Mootz</td>
<td>University of Münster, Germany</td>
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<td>17:35 – 17:55</td>
<td>Molecular Epitope Determination of Aptamer Complexes of the Multi-domain Protein C-Met by Proteolytic Affinity- Mass Spectrometry</td>
<td>Michael Przybylski</td>
<td>Steinbeis Centre for Biopolymer Analysis and Biomedical Mass Spectrometry, Germany</td>
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<td>Conference Dinner (Ludwig im Museum)</td>
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Thursday, 21 March 2019

Session 8: Peptide Biomaterials and Structured Peptides

9:00 – 9:45  Engineering peptide self-assembly for biomaterial applications through molecular and environmental manipulation
Helena S. Azevedo, University of London, UK

9:45 – 10:05  Using DNA-based nanotemplating to enhance biological function of peptides
Dave M. Smith, Fraunhofer IZI Leipzig, Germany

10:05 – 10:25  Stereoselective peptide modifications – efficient tools for natural product and drug synthesis
Matthias Scholz, University of Bonn, Germany

10:25 – 10:45  Chemical synthesis of functional peptides and membrane-associated proteins: from drug discovery to bioinspired materials
Alesia A. Tietze, University of Gothenburg, Sweden

10:45 – 11:15  Coffee Break

11:15 – 11:45  Exploring de novo designed protein folding motifs as scaffolds for chemical reactions
Franziska Thomas, University of Göttingen, Germany

11:45 – 12:05  Gaining and losing the activity of antimicrobial [KL]n peptides
Fabian Schweigardt, KIT Karlsruhe, Germany

12:05 – 12:25  Detailed structure of stable toroidal pores formed by an antimicrobial peptide in membranes, determined by multinuclear solid-state NMR
Erik Strandberg, KIT Karlsruhe, Germany

12:25 – 12:45  Modification of vancomycin leads to conjugates that overcome all types of resistance
Walter Mier, Heidelberg University Hospital, Germany

12:45 – 13:00  Concluding Remarks / End of Conference