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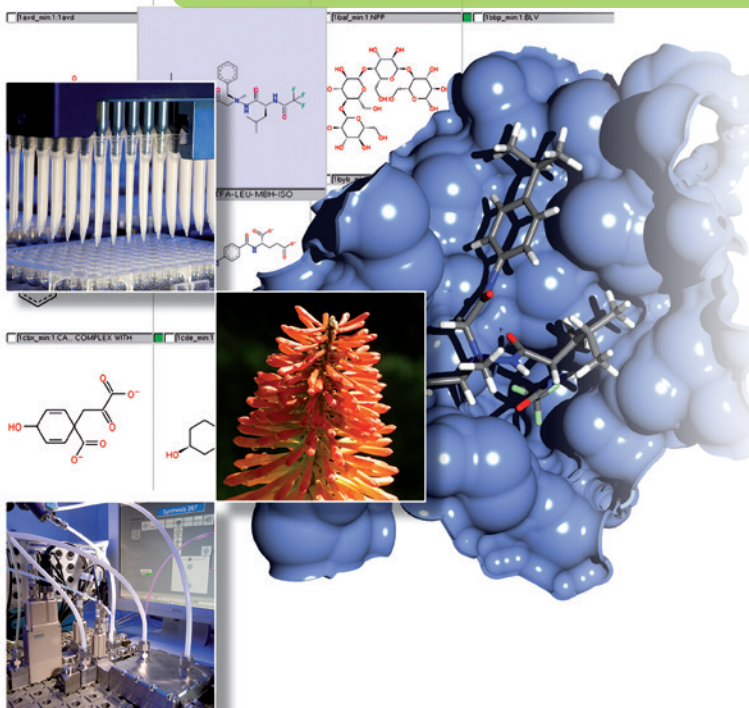
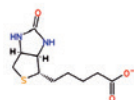
Gesellschaft für Chemische Technik
und Biotechnologie e.V.

PROGRAMME

24 – 25 January 2023 · DECHEMA-Haus · Frankfurt am Main

Advances in Chemical Biology

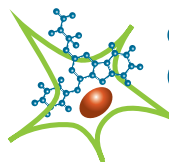
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CONTENT

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POSTER PROGRAMME

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As of January 2023.
Subject to alterations. Submission title and authors information as provided by the authors.
No proof by DECHEMA.

Tuesday, 24 January 2023

Room: Wilhelm-Keim-Raum

09:00 **WORKSHOP TUTORIAL:**
mRNA vaccines and Small Molecule Approaches in the Fight against SARS-CoV-2 infection
 K. Ritter¹, ¹Sanofi, Frankfurt/D

Room: Max-Buchner-Hörsaal

Session: Nucleic Acids

Chair: P. Stallforth, Hans Knöll Institut, Jena/D

13:00 **KEYNOTE LECTURE**
Optical Control of mRNA Translation
 A. Rentmeister¹; N. Klöcker¹; F. Weissenböck¹; M. van Dülmen¹; P. Spacek¹; A. Bollu¹;
¹Westfälische Wilhelms-Universität Münster/D

13:35 **Expansion of the genetic alphabet for nucleic acid functionalization**
 S. Kath-Schorr¹; ¹Universität zu Köln/D

13:55 **Nucleobase-modified aptamers – applications and insight into population changes during the selection process**
 G. Mayer¹; ¹University of Bonn, Bonn/D

14:15 **RNA catalyzes site-specific RNA propargylation**
 T. Okuda¹; C. Höbartner¹; ¹Universität Würzburg/D

14:30 **RiPP Natural Products as Epitope Grafting Scaffolds for the Development of New Drug Leads**
 J. Hegemann¹; ¹Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Saarbrücken/D

14:50 **Oligopeptides from early diverging fungi: potential for pharmacy and technical application**
 J. Wurlitzer¹; J. Rassbach¹; M. Gressler¹; ¹Friedrich-Schiller-University, Jena/D

15:05 **Reconstruction of Paleolithic bacterial genomes adds time axis in natural product discovery**
 M. Klapper¹; A. Hübner²; A. Ibrahim¹; C. Warinner²; P. Stallforth¹; ¹Leibniz-Institut für Naturstoff-Forschung und Infektionsbiologie - Hans-Knöll-Institut e.V., Jena/D; ²Max Planck Institute for Evolutionary Anthropology, Leipzig/D

15:20 Coffee Break

Tuesday, 24 January 2023

Room: Max-Buchner-Hörsaal

Session: Small Molecules / Chemistry

Chair: F. von Nussbaum, NUVISAN ICB GmbH, Berlin/D

15:40 **Synthesis for Chemical Ecology – Thallusin and Methanobactin**
 H. Arndt¹; ¹Friedrich-Schiller Universität Jena, Jena/D

16:00 **Molecular photoswitches in vivo and in the NIR: from metabolic resistance, to passing the 700 nm photoresponse barrier**
 O. Thorn-Seshold¹; ¹LMU Munich, München/D

16:20 **Novel inhibitors of bacterial peptidoglycan biosynthesis**
 C. Ducho¹; ¹Universität des Saarlandes, Saarbrücken/D

16:40 **Bioactivity Annotation for Small Molecules using the Cell Painting Assay**
 S. Ziegler¹; ¹Max Planck Institute of Molecular Physiology, Dortmund/D

17:00 **Poster Presentations (short lectures of selected posters)**
 Poster P 02, P 05, P 09, P 10

17:20 Coffee Break

17:40 Richard-Willstätter Lecture

18:30 Get together & Poster Party (18:30 – 20:30)

Wednesday, 25 January 2023

Room: Max-Buchner-Hörsaal

Session: Small Molecule / Chemistry

Chair: P. Stallforth, Hans-Knöll-Institut, Jena/D

- 09:00 **KEYNOTE LECTURE**
Expanding the genetic code – new chemistries for biology
K. Lang¹; ¹ ETH Zurich/CH
- 09:35 **Proteome-Derived Chemical Probes for Biomedical Research & Imaging**
H. Maric¹; ¹ Universität Würzburg/D
- 09:55 **Inositol phosphates and pyrophosphates are more diverse than previously thought**
H. Jessen¹; ¹ University of Freiburg/D
- 10:15 **A chemical inducer of proximity to control protein networks in vivo**
R. Wombacher¹; ¹ Max-Planck-Institut for Medical Research, Heidelberg/D
- 10:35 **Discovery of Submicromolar Inhibitors of the Virulence Factor LasB from Pseudomonas aeruginosa using Rational Design**
A. Hirsch¹; ¹ Helmholtz-Zentrum für Infektionsforschung GmbH, Saarbrücken/D
- 10:55 **Hemipiperazines – new peptide-derived molecular photoswitches**
Z. Pianowski¹; S. Kirchner²; A. Leistner²; P. Gödtel²; ¹ KIT Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen/D; ² KIT Karlsruhe Institute of Technology, Karlsruhe/D
- 11:15 **Coffee Break**

Session: Proteins

Chair: M. Köhn, Albert Ludwigs Universität Freiburg, Freiburg/D

- 11:35 **Smaller, Stronger, More Stable: Peptide Variants of a SARS-CoV-2 Neutralizing Miniprotein**
J. Eichler¹; ¹ FAU Erlangen-Nürnberg, Erlangen/D
- 11:55 **Organometallic catalysis in a protein cage**
C. Jessen-Trefzer¹; ¹ University of Freiburg/D
- 12:15 **Sequence-based prediction and measurement of pH-dependent protein solubility**
M. Oeller¹; P. Sormanni¹; M. Vendruscolo¹; ¹ University of Cambridge/UK
- 12:30 **Direct Cytosolic Delivery of Proteins using Next Generation Cell-Penetrating Peptide Additives**
J. Arafiles¹; C. Hackenberger¹; ¹ FMP-Berlin/D
- 12:45 **Chemical proteomics for analysis of protein post-translational modifications during neuronal differentiation.**
T. Becker¹; C. Cappel²; I. Buchsbaum³; S. Cappello³; M. Damme²; P. Kielkowski¹; ¹ LMU Munich/D; ² University of Kiel, Kiel/D; ³ Max-Planck-Institute of Psychiatry, Munich/D
- 13:05 **Lunch Break**

Wednesday, 25 January 2023

Room: Max-Buchner-Hörsaal

Session: Proteins

Chair: C. Becker, University of Vienna, Wien/A

- 14:05 **KEYNOTE LECTURE**
Directing multistep biosynthesis: Megasyntases enable access to new-to-nature compounds
M. Grininger¹; A. Rittner¹; M. Joppe¹; L. Buyachuihan¹; S. Reiners¹; F. Lehmann¹; D. Ludig¹; C. Gusenda¹; F. Stegemann¹; M. Klaus¹; J. Gajewski¹; ¹ Goethe Universität Frankfurt, Frankfurt am Main/D
- 14:40 **iSPAAC: isomer-free strain-promoted azide-alkyne cycloaddition for generating large inhibitors of protein-protein interactions**
T. Berg¹; ¹ Leipzig University, Leipzig/D
- 15:00 **Zinc finger proteins are previously unknown targets of proton pump inhibitors**
T. Marker¹; R. Steimbach¹; T. Dick¹; A. Miller¹; ¹ German Cancer Research Center (DKFZ), Heidelberg/D
- 15:20 **Coffee Break**

Session: Proteins

Chair: P. Stallforth, Hans-Knöll-Institut, Jena/D

- 15:40 **Dissecting ubiquitin-mediated signalling through chemical biology**
M. Gersch¹; ¹ Max Planck Institute of Molecular Physiology, Dortmund/D
- 16:00 **Structural dynamics of inhibited trypanosomal enzymes**
U. Hellmich¹; ¹ Friedrich-Schiller-Universität Jena/D
- 16:20 **KEYNOTE LECTURE**
Towards a Chemical Biology platform for the systematic discovery and evaluation of novel covalent chemistry
S. Essig¹; ¹ Bayer AG, Wuppertal/D
- 17:15 **Wrap up and Closure**

POSTER PROGRAMME

- P 01 **Synthetic strategies towards unnatural nucleosides with N- and C-glycosidic bonds**
R. Dörrenhaus¹; S. Kath-Schorr¹; ¹ Universität zu Köln, Köln/D
- P 02 **RNA Tracking, Translation and Transport: Applications of Natural and Unnatural Base Modified mRNA**
L. Bornewasser¹; N. Zips¹; S. Kath-Schorr¹; ¹ Universität zu Köln, Cologne/D
- P 03 **High-throughput screening of intracellular protein-protein interaction via ELISA**
A. Baischew¹; ¹ TU Darmstadt, Darmstadt/D
- P 04 **Developing an Orthogonal Assay Platform to Screen for Inhibitors of the Protein Methyltransferase METTL21A**
M. Staudt¹; L. Peng²; S. Wang²; E. Metzger²; R. Schüle²; M. Jung¹; ¹ University of Freiburg, Freiburg/D; ² University Freiburg Medical Centre, Freiburg/D
- P 05 **Cellular Analysis of the Glucocorticoid receptor-FKBP51/52 interactions**
S. Engel¹; A. Baischew¹; F. Hausch¹; ¹ TU Darmstadt, Darmstadt/D
- P 06 **Cellular identification of FKBP12-degrading molecular glues**
T. Geiger¹; J. Dreizler¹; P. Purder¹; F. Hausch¹; ¹ TU Darmstadt, Darmstadt/D
- P 07 **Discovery of the first FKBP51 PROTACs to target the scaffolding function of FKBP51**
M. Zheng¹; ¹ Technical University Darmstadt, Darmstadt/D
- P 09 **Synthesis and Biological Profiling of a Focused Orfamide A Library in the Green Alga Chlamydomonas reinhardtii**
Y. Bando¹; Y. Hou¹; D. Flores¹; V. Hotter¹; B. Schiweck¹; T. Melzer¹; M. Mittag¹; H. Arndt¹; ¹ Friedrich-Schiller-Universität Jena, Jena/D
- P 10 **Synthesis and Characterisation of Oligo-Conjugates for Targeted Delivery in Antisense Therapy**
P. Becker¹; J. Hall¹; ¹ ETH Zurich/CH
- P 11 **Proximity-based Screening for class A/B hybrid GPCRs**
S. Hartmann¹; M. Gnatzy¹; ¹ TU Darmstadt/D
- P 12 **A Modular Approach for the Synthesis of Novel Heterobifunctional Cyanine Dyes**
C. Maller¹; F. Schedel¹; M. Köhn¹; ¹ BIOSs-Center for Biological Signalling Studies, Department of Biology, University of Freiburg/D
- P 13 **Culture collapse of the diatom Chaetoceros didymus and the stabilizing influence of its microbiome**
M. Staudinger¹; A. Bigalke¹; Y. Deng¹; G. Pohnert¹; ¹ Friedrich Schiller University Jena/D
- P 14 **A DNA interstrand crosslink formed by photochemical alkene-alkyne [2+2] cycloaddition**
H. Neitz¹; C. Höbartner¹; ¹ Universität Würzburg/D
- P 15 **Direct C-H Cyanation by ICN formed in situ: Nannoazinone B**
P. Wienecke¹; H. Arndt¹; ¹ Friedrich-Schiller-Universität Jena/D

POSTER PROGRAMME

- P 16 **Total synthesis of lactam-bridged FKBP51 variants to stabilize transient protein conformations**
A. Charalampidou¹; T. Nehls¹; C. Meyners¹; S. Gandhesiri²; B. Pentelute²; F. Lermyte¹; F. Hausch¹; ¹ Technical University of Darmstadt, Darmstadt/D; ² Massachusetts Institute of Technology, Cambridge/USA
- P 17 **The Role of Natural Products in Anthropological Microbiomes**
I. Wasmuth¹; A. Ibrahim¹; C. Warriner²; P. Stallforth¹; ¹ Leibniz Institut für Naturstoff-Forschung und Infektionsbiologie - Hans-Knöll-Institut e.V., Jena/D; ² Max-Planck-Institut für evolutionäre Anthropologie, Leipzig /D
- P 18 **Identifying the Best: Microcystin based inhibitors imparting selectivity towards Protein Phosphatase-1 and -2A**
N. Nandi¹; M. Köhn²; ¹ University of Freiburg, Freiburg/D; ² BIOSs-Center for Biological Signalling Studies, Faculty of Biology, University of Freiburg, Freiburg/D
- P 19 **Cellular side effects from palmitoylated polybasic sequences**
L. Scheinost¹; J. Chojnacki¹; Y. Wang²; M. Köhn¹; ¹ Albert-Ludwigs-Universität Freiburg, Freiburg im Breisgau/D; ² European Molecular Biology Laboratory, Heidelberg/D
- P 20 **SAR substrate study towards improved Self-Labeling Protein technology based on the SNAP- and CLIP-Tag**
V. Nasufovic¹; ¹ Max Planck Institute for Medical Research, Heidelberg/D
- P 21 **A translational repression reporter assay for the analysis of RNA-binding protein consensus sites**
J. Nowacki-Hansen¹; M. Malenica¹; S. Schmeing¹; D. Schiller²; B. Buchmuller²; G. Amrahova¹; P. Hart¹; ¹ Max Planck Institute of Molecular Physiology, Dortmund/D; ² Technische Universität Dortmund, Dortmund/D
- P 22 **Structural Basis for SUMO-Paralogue Specificity in the DeSUMOylase USPL1**
Z. Zhao¹; M. Gersch¹; ¹ Max Planck Institute of Molecular Physiology, Dortmund/D
- P 23 **Assessing the impact of protein phosphatase-1 (PP1) modulation with PP1-disrupting peptides (PDPs) in HeLa cells**
B. Hoermann¹; E. Dürr¹; C. Ludwig²; M. Köhn¹; ¹ University of Freiburg, Freiburg/D; ² Technical University of Munich, Munich/D
- P 24 **Recombinant Mussel Protein Analog functionalized with non-canonical Amino Acids as Photoactivatable Biogluce**
C. Schipp¹; N. Koch¹; A. De Simone¹; T. Schneider¹; S. Junne²; P. Neubauer¹; N. Budisa³; ¹ Technische Universität Berlin, Berlin/D; ² Aalborg University Esbjerg, Esbjerg/DK; ³ University of Manitoba, Winnipeg/CDN
- P 25 **Molecular basis for Ubiquitin/Fubi dual specificity in USP16 and USP36 underlying Fubi-S30 cleavage**
R. O'Dea¹; N. Kazi¹; A. Hoffmann-Benito¹; Z. Zhao¹; P. Janning²; M. Gersch³; ¹ Max Planck Institute of Molecular Physiology, Chemical Genomics Centre, Dortmund/D; ² Max Planck Institute of Molecular Physiology, Department of Chemical Biology, Dortmund/D; ³ Max Planck Institute of Molecular Physiology and TU Dortmund University, Dortmund/D

POSTER PROGRAMME

- P 26 **Synthetic Fluorescent Probes for High-End-Microscopy**
C. Huhn¹; V. Khayenko¹; M. Hein¹; O. Valanju¹; C. Schulte¹; G. Danti¹; T. Lindner²;
H. Maric¹; ¹ Rudolf-Virchow-Zentrum, Universität Würzburg, Würzburg/D; ² Uniklinikum
Würzburg/D
-
- P 27 **Biocatalytical diversification of 4'-thiouridine gives access to halogenated pyrimidine
and purine derivatives**
S. Westarp¹; ¹ Technische Universität Berlin/D

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