

Biophysical Methods and switchSENSE® User Meeting

PROGRAM

September 15 – 17, 2021
Munich, Germany



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Event Location

Maria's Platzl, Kreszenz⁴ Der Saal
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Organizational Contact

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In case you'd like to join our meeting but cannot travel due to COVID19 restrictions in your country and/or your company, please get in touch with our event team at events@dynamic-biosensors.com.

BE INSPIRED, INTERACT, ENGAGE & LEARN.

www.dynamic-biosensors.com/user-meeting/

COVID Rules & Entry Requirements

"3G Rule" required for all participants - prioritizing your safety

The health and safety of all event participants is our highest priority. In accordance with the latest regulations in Germany, entry to the event will be exclusively for those that can provide proof of **one** of the following:

Fully Vaccinated Proof of full vaccination by an EU authorised COVID-19 vaccine **more than 14 days prior to entry.**

Recovered Proof of recovery **within 6 months.**

Negative Test Proof of a negative test result from a certified test centre **within the last 24hrs** (antigen test or PCR).

For further information, please visit www.dynamic-biosensors.com/coronavirus-update/

Please be advised that photographs and/or videos will be taken during our events. By taking part in our user meetings you grant the event organizers full rights to use the images resulting from the photography/video filming, and any reproductions or adaptations of the images for use on the DBS website and in the press, our marketing materials, and other DBS publications. If you do not wish to be photographed or filmed, please inform us in advance. Thank you for your understanding.

Wednesday, Sep. 15th

13:00 Welcome & Registration

BIOPHYSICS IN DRUG DISCOVERY Chair: Ulrich Rant

14:00 Opening Remarks
Ulrich Rant, Dynamic Biosensors

14:15 • **Biomolecular Interaction Analysis: Challenges, Developments and Perspectives**
Friedrich Herberg, University of Kassel, Kassel

14:45 **Hide & Seek - Small Molecule Targets**
Ute Jucknischke & Laura Debbert,
Roche Diagnostics, Penzberg

15:15 **How to Make Best Use of the Adapter Chip**
Wolfgang Kaiser, Dynamic Biosensors

15:35 Coffee Break

DNA/RNA BINDERS Chair: Friedrich Herberg

16:00 **Activity and Sequence Specificity of DNA/RNA Binders**
Hanna Müller-Landau, Dynamic Biosensors

16:20 **DNA Glycosylases in Maintenance and Regulation of Intercalating Motifs**
Tobias Obermann, NTNU-IKOM, Trondheim

16:40 **Exploring Binding Mechanisms of Multidomain Proteins to RNA** Anahi Higuera, Dynamic Biosensors

17:10 **Chemical Biological Strategies to Modulate Gene Expression**
Andrea Taldariz-Sender, University of Strathclyde, Glasgow

17:30 **How to Set Up a Kinetic Assay from Scratch**
Zdenka Cicova, Dynamic Biosensors

18:00 **Networking Event at Bavarian Beergarden**
Maria's Platzl, Mariahilfplatz 4, 81541 München

Thursday, Sep. 16th

08:30 Coffee & Registration

NOVEL METHODS IN BIOPHYSICAL ANALYSIS Chair: Ralf Strasser

09:00 • **Chemistry Meets DNA Nanotechnology**
Kurt Gothelf, Aarhus University, Aarhus

09:30 **Analysis of PROTAC Ternary Binding by Induced Proximity with a DNA Y-Structure**
Alice Soldà & Irene Ponzo, Dynamic Biosensors

10:00 **Exploring the PROTAC Mechanism of Action**
Charlotte Crowe, University of Dundee, Dundee

10:20 **How Fitting Algorithms work: 1-to-1 Kinetics and Beyond**
Adrian Walser, Dynamic Biosensors

10:35 Coffee Break

MULTIVALENT INTERACTIONS & DNA REPAIR Chair: Kurt Gothelf

11:05 **Analysis of Bispecific and Multivalent Antibodies with switchSENSE®**
Stefanie Mak, Dynamic Biosensors

11:35 **Multivalent Interactions Resolved by Fluorescence Proximity Sensing**
Clemens Schulte, University of Wuerzburg, Wuerzburg

11:55 **DNA Structure-Specific Cleavage of DNA-Protein Crosslinks by the SPRTN Protease**
Julian Stingele, Ludwig Maximilian University, Munich

12:25 Lunch

BEST PRACTICES AND BENCHMARKING Chair: Jonathan Faherty

13:25 **How to Use a Model Interaction for Training & Performance Validation**
Sebastian Letschert, Dynamic Biosensors

13:45 **Multi-Approach Benchmarking of Macromolecular Interactions**
Eric Ennifar, CNRS/Université de Strasbourg, Strasbourg

14:05 **Macromolecular Interactions in Vitro, Comparing Classical and Novel Approaches**
Paloma Fernández Varela, I2BC-UMR9198, Gif-Sur-Yvette Cedex

14:25 **How to Prepare Pure DNA-Protein Conjugates with proFIRE®** Sabrina Weber, Dynamic Biosensors

14:45 Coffee Break

NEW APPROACHES IN BIOPHYSICAL ANALYSIS Chair: Daisy Paiva

15:15 **Virus Trapping Using Icosahedral DNA Origami Shells**
Elena-Marie Willner, Technical University Munich, Munich

15:35 **Purification of Antibody Conjugates Using proFIRE®**
Jessica Freitag, Fraunhofer Institute for Cell Therapy and Immunology, Leipzig

15:55 **Resolving Avidity and Affinity of Multi-Functional Protein Therapeutics** Alice Soldà, Dynamic Biosensors

16:15 **Identification of Functional T Cell Receptors (TCRs) via Measurement of TCR Structural Avidity**
Elvira D'Ippolito, Technical University of Munich, Munich

16:35 **Introducing cellTRAPs - Binding Kinetics Measured Directly on Cells**
Agnes Marzsal & Marcel Proske, Dynamic Biosensors

18:00 **Dinner at Spezlwirtschaft Haidhausen**
Pariser Str. 34, 81667 München

Friday, Sep. 17th

08:30 Coffee & Registration

BIOPHYSICS IN DRUG DISCOVERY Chair: Guido Uhlenbrock

09:00 **Identification of Small Molecules that Interfere with DNA**
Nina Grossmann, Merck Healthcare KGaA, Darmstadt

09:30 **Hit Identification and Validation with DNA Nanolevers**
Alberto Bresciani, IRBM S.p.A., Pomezia

09:50 **Investigation of Albumin Binding and Associated Half-Life Extension**
Johannes Rocker, Johannes Gutenberg University, Mainz

10:10 **Resolving Biotin-Streptavidin Kinetics, an Ultra-Strong Binder that Got "Lost in Citation"**
Jonathan Faherty, Dynamic Biosensors

10:30 Coffee Break

RESOLVING COMPLEX INTERACTIONS Chair: Wolfgang Kaiser

11:00 **switchSENSE® Approach of Small Molecule Transport through Two Examples: Exchange of Glutathione between Two Fungal Anti-Oxidative Proteins and Binding of a Chlorinated Pesticide to Plasmatic Lipoproteins**
Jean-Michel Girardet, Université de Lorraine, Nancy

11:30 **Chances and Challenges of switchSENSE® Technology Applied to Virus Receptor Interactions**
Marlen Kruse, Fraunhofer Institute for Cell Therapy and Immunology, Potsdam

11:50 **How to Plan and Analyze Experiments with the heliOS software**
Felix Kröner, Dynamic Biosensors

12:10 **Concluding Remarks & End of Meeting**

14:00 **Optional LAB COURSE: Do it yourself!**
Hands-on switchSENSE® experiments with heliX® instruments, assisted by DBS scientists. Samples are provided by Dynamic Biosensors.