GERMAN BIOPHYSICAL SOCIETY MEETING

September 25–28, 2022

University of Konstanz, Germany

DGfB Deutsche Gesellschaft für Biophysik e.V.

CONFERENCE PROGRAM

www.uni.kn/biophys2022

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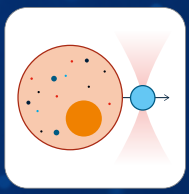
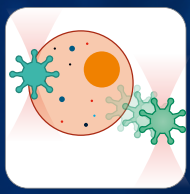
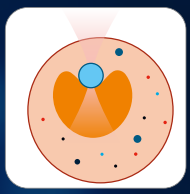


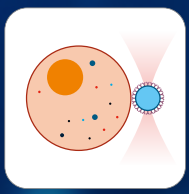
Tether Pulling



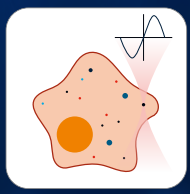
Immune Cells Interactions



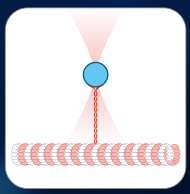
Cell & Nucleus Deformation



Cell-ECM Interactions



Active Micro-Rheology



In Vivo Motor Proteins Activity

Need more information?

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(Deutsche Gesellschaft für Biophysik e. V., DGfB)
www.dgfb.org

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TABLE OF CONTENT

WELCOME NOTE OF THE CONFERENCE CHAIRS

Dear colleagues,

on behalf of the German Biophysical Society (DGfB) it is our great pleasure to welcome you at the University of Konstanz for the DGfB meeting 2022.

The DGfB represents biophysics in Germany and promotes the interdisciplinary exchange of scientists from various research fields and from other associations. Following this spirit, the conference comprises joint sessions, co-organized with the Society for Biochemistry and Molecular Biology (GBM) and the German Physical Society (DPG).

We are delighted to present a diversified program with a large number of lectures and poster presentations. A particular focus of the conference is the support of young researchers. We would like to draw your attention to the Young Investigator Award lecture. The DGfB awards this prize to honor outstanding research achievements of a young scientist. Additionally, the best three poster contributions of the poster sessions will be awarded with poster prizes.

The scientific program will be accompanied by an industry exhibition, giving insights into technical innovations and intensifying the exchange between academia and industry.

We gratefully acknowledge the support of the German Science Foundation (DFG), the Collaborative Research Center (CRC) 969, the University of Konstanz, as well as all the exhibitors and companies sponsoring our meeting.

Many thanks to all conference participants who present their work and contribute to lively discussions. We would also like to thank the scientific committee for supervision of the program. Last, but not least, our special thanks go to Corinna Palz and Marc Jochimsen from the Event and Conference Management of the University of Konstanz for coordinating everything at and around the conference.

We are looking forward to an informative meeting and inspiring discussions!

With best regards,

Karin Hauser

Andreas Zumbusch

Conference Chairs
German Biophysical Society Meeting 2022
University of Konstanz

GENERAL INFORMATION

Venue	University of Konstanz, Universitätsstraße 10, 78464 Konstanz, Germany Building A, levels A5, A6, A7, Audimax The registration desk, all talks and the industry exhibition are located in building A (see campus map on page 11). Poster areas will be indicated on-site.
Registration	Registration opens on Sunday, Sep 25, 15:00 and is possible throughout the duration of the conference. The registration desk is located on level A6.
Certificate of Attendance	If you need a certificate of attendance, please refer to the registration desk.
Name Badge	Participants receive a name badge at the registration desk. Please wear your name badge during all conference events, including the social program. The name badge is required for the welcome reception and lunches in the mensa (included in the conference fee), the boat trip, the conference dinner (both required prior registration) and free bus rides to the campus.
Catering	The welcome reception on Sunday evening, all coffee breaks and lunches are included in the conference fee. On Mon and Tue, Sep 26 + 27, you can go for lunch in the mensa, make your own meal choice and pay with your lunch voucher at the check-out. On Wed, Sep 28, lunch bags will be provided for pick up at the coffee desks.
Internet Access	You can use wireless internet with eduroam. Additionally, a free conference network is provided. You can login into the „conference" network with the Username „Biophys2022" and the password „rcsal5a2".
Wardrobe	Wardrobe may be stored next to the registration.
Photography & Copyright	Taking pictures and recording during lectures and/or at the poster exhibition without the prior written consent of the presenter of the work are prohibited.
Book of Abstracts	The abstracts of all oral presentations and posters can be downloaded as a PDF file from the conference website www.uni.kn/biophys2022

Speakers Information

Please ensure that your presentation works at least 10 min before your session starts. You can either bring your presentation (in ppt or pdf format) on an USB stick to be uploaded on a conference computer or use your own laptop (HDMI connection required). A local volunteer will assist you with the upload or connection of your laptop or any technical difficulties.

Young Investigator Award

The conference hosts a Young Investigator Award competition. The German Biophysical Society (DGfB) awards this prize to honor outstanding achievements of a young investigator in the field of biophysics. The award comes with a prize money of 1000 Euros donated by the DGfB. Award ceremony and lecture will take place on Tuesday, Sep 27, 2022, 17:40-18:10, Audimax.

Poster Prizes

Poster presentations are an important part of the conference. Three poster prizes will be awarded in the closing ceremony on Wednesday, Sep 28, 2022, 12:10-12:30, Audimax. Each poster prize comes with a prize money of 200 Euros donated by the DGfB. All conference attendees can participate in the digital voting over the course of the conference.

DGfB Member Meetings

DGfB Section Meetings: Tuesday, Sep 27, 18:15 – 18:30
Section I Molecular Biophysics: A 702
Section II Membrane Biophysics: A 703
Section III Cellular Biophysics: A 704

DGfB General Assembly:
Tuesday, Sep 27, 18:30 – 19:30, A 701

Public Transportation

We are grateful for the support of the Stadtwerke Konstanz: they sponsor the bus transfer to the boat trip. In addition, conference attendees can use the public buses in Konstanz for free to commute to the university with the provided conference ticket. Bus lines 9A/B/C and 11 stop directly at the university main entrance. Face masks are obligatory in public transportation in Germany.

Corona

In the current pandemic situation, it is recommended that all university members and visitors wear either a medical or FFP2 face mask on the campus (www.uni.kn/coronavirus).

HOW TO GET THERE

By car

Street address for your navigation device:
Universitätsstrasse 10, 78464 Konstanz, Germany

From Stuttgart (180 km): Autobahn A 81 towards Singen.

From Munich (220 km): Autobahn A 96 towards Lindau and Meersburg, take the vehicle ferry to Konstanz.

From Zurich (75 km): Autobahn A7 towards Kreuzlingen/Konstanz

Car parking is available on North parking area (open air car park) and South parking area (parking garage with 2m height restriction).

By train

Train station destination: **Hauptbahnhof Konstanz** (main train station). From the train station you can take buses 9A and 9B directly to the main entrance of the university.

By bus

Public bus transportation within Konstanz is free with your conference name badge in combination with your conference bus ticket.

Bus line 9A, 9B and 9C: Starting from, for example, the main train station.

Bus line 11: Starting from, for example, the bus stop at the Wollmatingen train station.

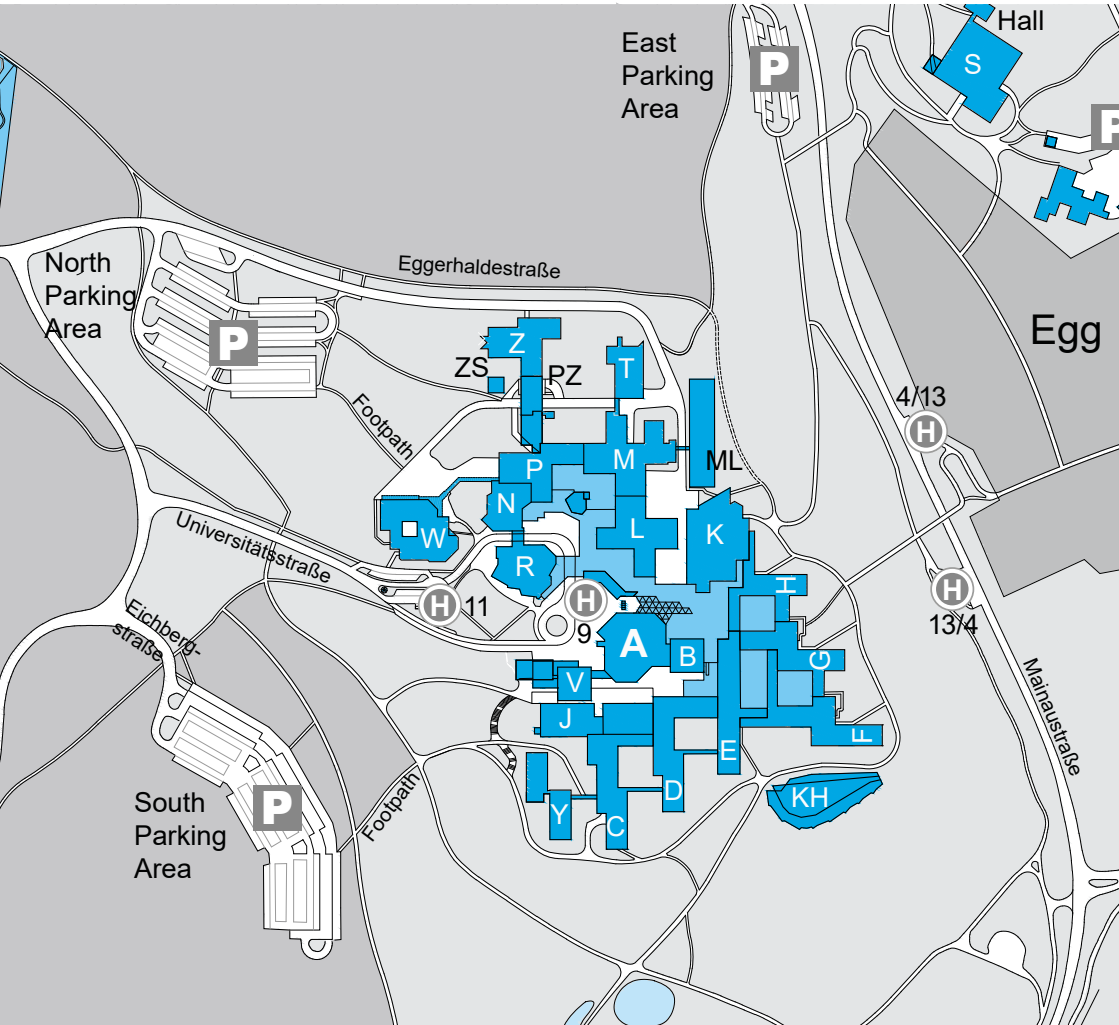
Bus line 4: Starting from, for example, the bus stop at the main train station, exit at the Egg/Universität bus stop. You have to walk 5 minutes uphill to the campus.

Timetable information: www.stadtwerke-konstanz.de/en/

CAMPUS MAP

This University of Konstanz campus map provides you with orientation. The main entrance of the university is located directly at the bus stop #9 in front of the A building. The staff of the Information-Point at the main entrance will be happy to assist you with directions.

The conference is located in the A-building. The registration desk is on floor A6. Just follow the signs. The plenary talks will be held in our Audimax lecture hall, all other talks in the lecture halls on level A7.



SUPPORTERS AND SCIENTIFIC PARTNERS

SOCIETIES

DPG — German Physical Society

GBM — Society for Biochemistry and Molecular Biology

RESEARCH CENTERS

CRC 969 — CRC 969: Chemical and Biological Principles of Cellular Proteostasis

SUPPORTERS

DFG Deutsche Forschungsgemeinschaft — German Research Foundation

VEUK – Der Alumni-Verein der Universität Konstanz — University of Konstanz Alumni Association

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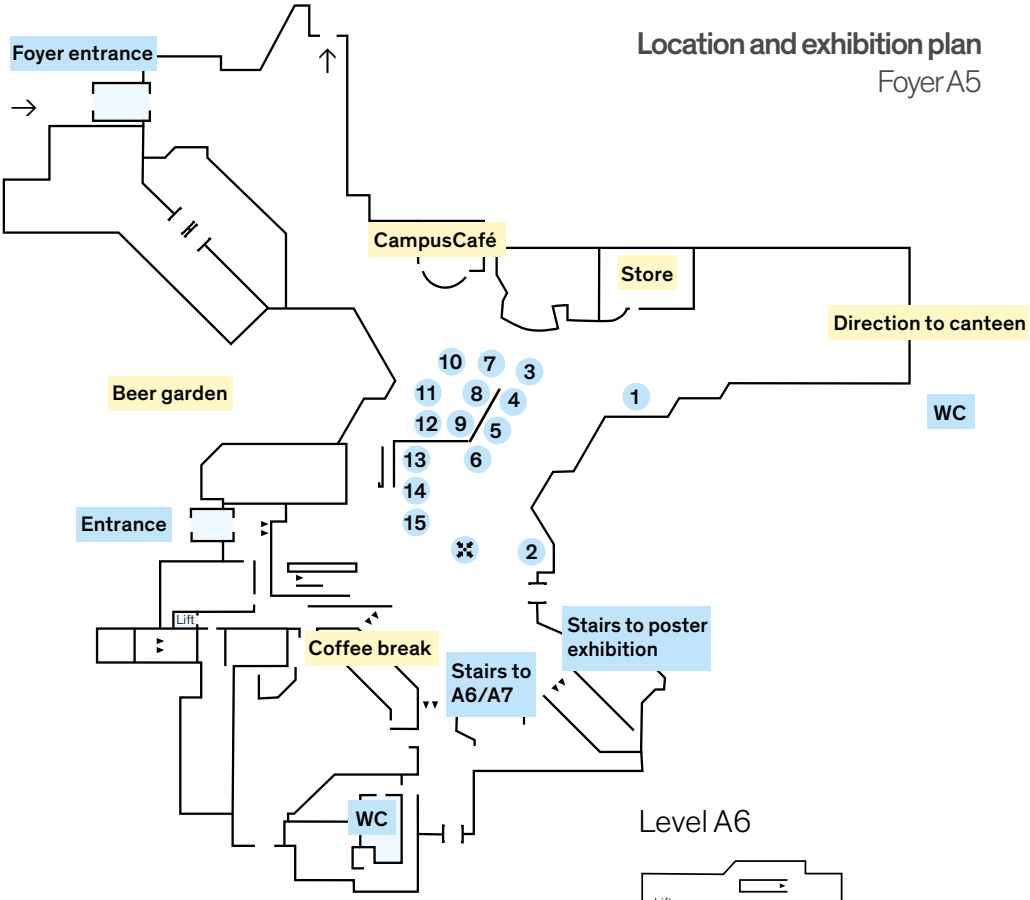
AppliedPhotophysics

EXHIBITORS

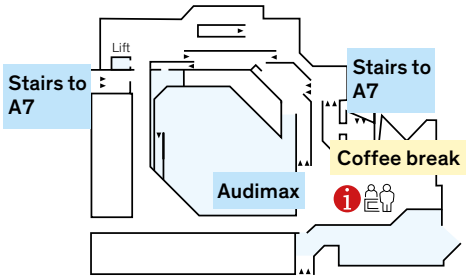
Acal BFi, AHF Analysetechnik, Applied Photophysics, Bruker, Cube Biotech, Dynamic Biosensors, Hamamatsu, IRsweep, Lumicks, MG Optical Solutions, MadCityLabs, Nanion, Rapp OptoElectronics, Refeyn Ltd., Thorlabs

Location and exhibition plan

Foyer A5



Level A6



Foyer A5:

- Meeting point boat trip
- 1 Dynamic Biosensors
- 2 AHF Analysetechnik
- 3 Bruker
- 4 Nanion
- 5 IRsweep
- 6 Rapp Optoelectronic
- 7 Lumicks
- 8 Hamamatsu
- 9 Cube Biontech
- 10 Thorlabs
- 11 Mad City Labs
- 12 MG Optical Solutions
- 13 ACAL Bfi
- 14 Refeyn Ltd.
- 15 Applied Photophysics

Level A6:

- Registration desk

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LOCAL ORGANIZING COMMITTEE

Karin Hauser, University of Konstanz (Conference Chair)

Andreas Zumbusch, University of Konstanz (Conference Chair)

Malte Drescher, University of Konstanz

Michael Kovermann, University of Konstanz

Christine Peter, University of Konstanz

Marc Jochimsen, University of Konstanz (Event and Conference Management)

Corinna Palz, University of Konstanz (Event and Conference Management)

ADDITIONAL PROGRAM COMMITTEE MEMBERS

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Gerhard Gompper, Research Center Jülich (DPG)

Helmut Grubmüller, Max Planck Institute for Multidisciplinary Sciences Göttingen

Thomas Gutsmann, Research Center Borstel

Sandro Keller, University of Graz

Claus Seidel, University of Düsseldorf (GBM)

Claudia Steinem, University of Göttingen

INVITED SPEAKERS

Sophie Brasselet (Marseille, FRA)

Frauke Gräter (Heidelberg, GER)

Marloes Groot (Amsterdam, NL)

Peter Hamm (Zürich, CH)

Mike Heilemann (Frankfurt, GER)

Alf Honigmann (Dresden, GER)

Daniel Huster (Leipzig, GER)

Jan Phillip Junker (Berlin, GER)

Sandro Keller (Graz, AT)

Sarah Köster (Göttingen, GER)

Madhavi Krishnan (Oxford, UK)

Nina Morgner (Frankfurt, GER)

Gary Pielak (Chapel Hill, USA)

Joachim Rädler (München, GER)

Jonas Ries (Heidelberg, GER)

Claudia Steinem (Göttingen, GER)

Florian Stengel (Konstanz, GER)

Emad Tajkhorshid (Urbana, USA)

Philip Tinnefeld (München, GER)

Charlotte Uetrecht (Hamburg, GER)

Stefan Weber (Freiburg, GER)

PROGRAM OVERVIEW

Sunday, September 25th	Monday, September 26th
	Plenary Session (DPG) 08:30–10:30 Audimax
	Coffee Break 10:30–11:00
	Parallel Sessions 11:00–12:00 1A Membrane Biophysics I — A 701 1B Computational Biophysics I — A 703 1C Biospectroscopy I — A 704
	Lunch Break 12:00–13:00 DFG Talk
	Plenary Session 13:00–14:30 Audimax
	Coffee Break 14:30–15:00
Registration Desk Opening 15:00–17:00 Foyer	**Poster Session 1** 15:00–16:30 Industry Talks A 701
	Parallel Sessions 16:30–17:15 2A Biomolecular Interactions — A 701 2B Channels & Transporters — A 703 2C Genetic Regulatory Systems — A 704
Welcome **Plenary Session** 17:00–19:00 Audimax	**Boat Trip** Departure 17:30
Get-Together 19:00 Food & Drinks	**Conference Dinner Konzil** 19:30–22:00

Tuesday, September 27th

Plenary Session (GBM)
08:30–10:30
Audimax

Coffee Break 10:30–11:00

Parallel Sessions
11:00–12:00

3A Imaging & Microscopy I	A 701
3B Computational Biophysics II	A 703
3C Protein. Struct., Dyn., Funct.	A 704

Lunch Break 12:00–13:00

Plenary Session
13:00–14:30
Audimax

Coffee Break 14:30–15:00

Poster Session 2
15:00–16:30
Industry Talks A 701

Parallel Sessions
16:30–17:30

2A Membrane Biophysic II	A 701
2B Cell Biophysics	A 703
2C Protein Fold., Aggr., Disease	A 704

Young Investigator Award
Audimax 17:40–18:10

DGfB Section Meetings 18:15–18:30
DGfB General Assembly 18:30–19:30

Guided City Tours

Wednesday, September 28th

Plenary Session
08:30–10:30
Audimax

Coffee Break 10:30–11:00

Parallel Sessions
11:00–12:00

5A Imaging & Microscopy II	A 701
5B Photobiophysics	A 703
5C Biospectroscopy II	A 704

Poster Awards & Closing

SUNDAY, SEPTEMBER 25TH, 2022

Welcome **17:00–17:30**			**Audimax**
		Helmut Grubmüller, Göttingen, GER Chair of the German Biophysical Society **Karin Hauser**, Konstanz, GER Conference Chair	
Plenary Session 1 **17:30–19:00**		**Chair:** Karin Hauser, Konstanz, GER	**Audimax**
17:30–18:00	**T1**	**Claudia Steinem**, Göttingen, GER *How does the new antibiotic lugdunin kill MRSA? – An in vitro analysis*	
18:00–18:30	**T2**	**Sandro Keller**, Graz, AT *New native nanodiscs for membrane-protein biophysics*	
18:30–19:00	**T3**	**Daniel Huster**, Leipzig, GER *Rhomboid-catalized intramembrane proteolysis requires hydrophobic matching with the surrounding lipid bilayer*	
19:00–21:00		**Get Together (Food & Drinks)**	**Foyer**

MONDAY, SEPTEMBER 26TH, 2022

Plenary Session 2 – DPG Session **Audimax**
08:30–10:30 **Chair:** Andreas Zumbusch, Konstanz, GER

08:30–09:00 **T 4** **Sarah Köster**, Göttingen, GER
Intermediate filaments in the cytoskeleton: safety belt and shock absorber for the cell?

09:00–09:30 **T 5** **Jan Philipp Junker**, Berlin, GER
Simultaneous lineage tracing and cell type identification using CRISPR/Cas9 induced genetic scars

09:30–10:00 **T 6** **Madhavi Krishnan**, Oxford, UK
Bringing electrostatics to light: electrometry probes a new dimension at the molecular scale

10:00–10:30 **T 7** **Joachim Rädler**, München, GER
Mechanisms of LNP-based RNA delivery and models of time-resolved gene expression in single cells

10:30–11:00 **Coffee Break**

Parallel Session 1A – Membrane Biophysics I **A 701**
11:00–12:00 **Chair:** Andreas Janshoff, Göttingen, GER

11:00–11:15 **T 8** **Katia Cosentino,** Osnabrück, GER
Membrane permeabilization in regulated cell death at the single molecule level

11:15-11:30 **T 9** **Maria Hoernke,** Freiburg, GER
Leaky membrane fusion: an ambiguous effect induced by antimicrobial polycations

11:30-11:45 **T 10** **Christoph Westerhausen,** Augsburg, GER
Membrane transport in cell ensembles is modulated by the membrane state

11:45–12:00 **T 11** **Matthias Wilm,** Dublin, IRL
Synthesis of large lipid membranes with integrated membrane proteins from gas phase

Parallel Session 1B – Computational Biophysics I **A 703**
11:00–12:00 **Chair:** Roberto Covino, Frankfurt, GER

11:00–11:15 **T 12** **Jochen Hub,** Saarbrücken, GER
Free energy landscape of pore and stalk formation are controlled by lipid composition and lipidprotein interactions

11:15–11:30 **T 13** **Till Rudack,** Bochum, GER
A scale-spanning integrative modeling strategy to study structure, dynamics, and function of molecular machines

11:30–11:45 **T 14** **Hendrik Jung,** Frankfurt, GER
Artificial intelligence for molecular mechanism discovery

11:45-12:00 **T 15** **Marius F. W. Trollmann,** Erlangen, GER
mRNA lipid nanoparticle phase transition

Parallel Session 1C – Biospectroscopy I **A 704**
11:00–12:00 **Chair:** Jacek Kozuch, Berlin, GER

11:00–11:15 **T 16** **Tilman Kottke,** Bielefeld, GER
In-cell infrared difference spectroscopy on photoreceptors

11:15–11:30 **T 17** **Henrike M. Müller-Werkmeister,** Potsdam, GER
Time-resolved serial crystallography of an enzyme at work: the role of lasers, timing, and spectroscopy

11:30–11:45 **T 18** **Ellen Adams,** Dresden, GER
Key role of the solvent in driving liquid-liquid phase separation

11:45–12:00 **T 19** **Lara Williams,** Konstanz, GER
Site-directed labelling with photoexcitable spin labels for light-induced dipolar spectroscopy

12:00–12:30	**T 20**	**Christian Bamann,** DFG	**A 701**
		DFG-funding opportunities for graduates of Life Sciences	
12:00–13:00		**Lunch Break**	
Plenary Session 3 **13:00–14:30**		**Audimax** **Chair:** Helmut Grubmüller, Göttingen, GER	
13:00–13:30	**T 21**	**Mike Heilemann,** Frankfurt, GER *Quantification of protein subunits in dense clusters using kinetics-assisted quantitative super-resolution microscopy*	
13:30–14:00	**T 22**	**Frauke Gräter,** Heidelberg, GER *How collagen converts mechanical into chemical stress*	
14:00–14:30	**T 23**	**Emad Tajkhorshid,** Urbana-Champaign, USA *Lipid-mediated organization of prestin in the cochlear membrane and implications in sound amplification*	
14:30–15:00		**Coffee Break**	
Poster Session 1 **15:00–16:30**			**Poster Areas**
Industry Talks **15:00–16:30**			**A 701**
Parallel Session 2A – Biomolecular Interactions **16:30–17:15**		**Chair:** Luuk van Wilderen, Frankfurt, GER	**A 701**
16:30–16:45	**T 24**	**Nils-Alexander Lakomek,** Düsseldorf, GER *Structural dynamics of intrinsically disordered proteins at the membrane interface: recent insights into the pre-fusion state of SNARE proteins by NMR spectroscopy*	

16:45–17:00 **T 25** **Radek Šachl,** Prague, CZ
In-membrane protein oligomerization as a critical step for membrane pore formation

17:00–17:15 **T 26** **Andres Manuel Vera,** München, GER
Heterogeneous assembly of the cohesin-dockerin interaction and its modulation by isomerization of a single proline

Parallel Session 2B – Channels and Transporters **A 703**
16:30–17:15 **Chair:** Jörg Fitter, Aachen, GER

16:30–16:45 **T 27** **Indra Schroeder,** Jena, GER
Role of ion distribution and energy barriers for concerted motion of subunits in selectivity filter gating of a K+ channel

16:45–17:00 **T 28** **Marcus Schewe, Kiel,** GER
An alternative mechanism of Kv channel inhibition: binding of cellular lipids to side-pockets induces C-type inactivation

17:00–17:15 **T 29** **Abhishek Acharya,** Bremen, GER
A mechanistic view of the role of L3 loop conformational dynamics in antibiotic permeation and gating in OmpF

Parallel Session 2C – Genetic Regulatory Systems **A 704**
16:30–17:15 **Chair:** Karim Fahmy, Dresden, GER

16:30–16:45 **T 30** **Hannes Witt,** Amsterdam, NL
The mechanics of mitotic chromosomes

16:45–17:00 **T 31** **Michelle Paulina Rademacher,** Düsseldorf, GER
Time-resolved spectroscopy of an angular psoralen intercalated into DNA

17:00–17:15	**T 32**	**Alice Frederike Rosa Grün,** Hamburg, GER *Structural analysis of the interaction of the herpes simplex virus 1 terminase with secondary DNA structures*
17:30		**Departure for Boat Trip**
19:30–22:00		**Conference Dinner Konzil**

TUESDAY, SEPTEMBER 27TH, 2022

Plenary Session 4 – GBM Session		**Audimax**
08:30–10:30		**Chair:** Claus Seidel, Düsseldorf, GER
08:30–09:00	**T 33**	**Philip Tinnefeld,** München, GER *Single-molecule biophysics and biosensing with DNA origami devices and graphene*
09:00–09:30	**T 34**	**Jonas Ries,** Heidelberg, GER *Superresolution microscopy for structural cell biology*
09:30–10:00	**T 35**	**Sophie Brasselet,** Marseille, FRA *Imaging of proteins' organization in 3D using single molecule orientation and localization microscopy (SMOLM)*
10:00–10:30	**T 36**	**Alf Honigmann,** Dresden, GER *Structure and assembly of epithelial tight junctions: super-resolution and reconstitution*
10:30–11:00		**Coffee Break**

Parallel Session 3A – Imaging, Microscopy, Single Molecule Biophysics I
11:00–12:00 **Chair:** Jacob Piehler, Osnabrück, GER **A 701**

11:00–11:15 **T 37** **Iliya Stoev,** Dresden, GER
Highly sensitive force measurements enabled by a new optofluidic particle trap

11:15–11:30 **T 38** **Oleksii Nevskyi,** Göttingen, GER
Super-resolution microscopy with metal-induced energy transfer

11:30–11:45 **T 39** **Charlotta Lorenz,** Göttingen, GER
Mechanical properties of keratin and vimentin intermediate filaments

11:45–12:00 **T 40** **Andrea Pruccoli,** Konstanz, GER
Electronically enhanced Stimulated Raman Scattering microscopy of visible dyes

Parallel Session 3B – Computational Biophysics II **A 703**
11:00–12:00 **Chair:** Rainer Böckmann, Erlangen, GER

11:00–11:15 **T 41** **Roberto Covino,** Frankfurt, GER
Extracting free energy and dynamics from incomplete single molecule measurments with simulation based inference

11:15–11:30 **T 42** **Vania Calandrini,** Jülich, GER
Subdiffusive-Brownian crossover in membrane systems: a generalized Langevin equation-based approach

11:30–11:45 **T 43** **Christoph Allolio,** Prague, CZ
Multiscale modeling of specific interactions on biomembranes

11:45–12:00 **T 44** **Leonie Chatzimagas,** Saarbrücken, GER
Simulation of liquid jet explosions and shock waves induced by X-ray free-electron lasers

Parallel Session 3C – Protein Structure, Dynamics, Function **A 704**
11:00–12:00 **Chair:** Indra Schroeder, Jena, GER

11:00–11:15 **T 45** **Jochen Balbach,** Halle, GER
Macromolecular crowding induces a binding competent transient structure in intrinsically disordered Gab1

11:15–11:30 **T 46** **Olga Mayans,** Konstanz, GER
Stretch-induced unfolding of titin-like kinases as mechanosignalling mechanism in vivo

11:30–11:45 **T 47** **David Scheerer,** Rehovot, ISR
Substrate inhibition of an enzyme: are ultrafast motions affecting catalytic activity?

11:45–12:00 **T 48** **Sven Stripp,** Berlin, GER
Made in the dark – infrared difference spectroscopy for the analysis of gas-processing metalloenzymes

12:00–13:00 **Lunch Break**

Plenary Session 5 **Audimax**
13:00–14:30 **Chair:** Thomas Gutsmann, Borstel, GER

13:00–13:30 **T 49** **Nina Morgner,** Frankfurt, GER
Wanted and unwanted assemblies of biomolecular complexes – what can we learn with native mass spectrometry?

13:30–14:00 **T 50** **Peter Hamm,** Zürich, CH
Using azobenzene photocontrol to set proteins in motion

14:00–14:30 **T 51** **Marloes Groot,** Amsterdam, NL
Translation of higher harmonic generation microscopy into the clinic for tumor tissue assessment

14:30–15:00 **Coffee Break**

Poster Session 2 **Poster Areas**
15:00–16:30

Industry Talks **A 701**
15:00–16:30

Parallel Session 4A – Membrane Biophysics II **A 701**
16:30–17:30 **Chair:** Jochen Hub, Saarbücken, GER

16:30–16:45 **T 52** **Andreas Janshoff,** Göttingen, GER
Cortex mechanics – the impact of actin architecture and the plasmamembrane

16:45–17:00 **T 53** **Daniel Mann,** Jülich, GER
Macromolecular organization of atg18 oligomers

17:00–17:15 **T 54** **Oliva Saldanha,** Konstanz, GER
Calcium induced vesicular interactions studied with ATR- FTIR spectroscopy

17:15–17:30 **T 55** **Larissa Socrier,** Göttingen, GER
Optical manipulation of Gb3 enriched lipid domains: impact on Shiga Toxin B binding

Parallel Session 4B – Cell Biophysics **A 703**
16:30–17:30 **Chair:** Maria Hörnke, Freiburg, GER

16:30–16:45 **T 56** **Andra Schromm,** Borstel, GER
Bacterial outer membrane vesicles (OMVs): Dissecting the delivery process to host cells

16:45–17:00 **T 57** **Malgorzata Lekka,** Krakow, PL
Understanding a link between the biomechanics and invasiveness of bladder cancer cells

17:00–17:15 **T 58** **Johannes Rheinlaender,** Tübingen, GER
Measuring the cortical tension of living cells using the scanning ion conductance microscope

17:15–17:30 **T 59** **Karim Fahmy,** Dresden, GER
Conserved patterns of heat release from cultured microorganisms reveal simple growth-metabolism relations

Parallel Session 4C – Protein Folding, Aggregation, Disease **A 704**
16:30–17:30 **Chair:** Henrike M. Müller-Werkmeister, Potsdam, GER

16:30–16:45 **T 60** **Jörg Fitter,** Aachen, GER
Mapping multiple distances in a multidomain protein for the identification of folding intermediates

16:45–17:00 **T 61** **Miloš Ivanović,** Zürich, CH
Protein dynamics in a biomolecular condensate

17:00–17:15 **T 62** **Kay Saalwächter,** Halle, GER
Gel formation of alpha crystallin solutions

17:15–17:30 **T 63** **Christian Nehls,** Borstel, GER
Visualization and force spectroscopy of mineral desert dust and associated microbes: unraveling a bacterial long-distance propagation strategy

Young Investigator Award **Audimax**
17:40–18:10 **Chair:** Hans-Joachim Galla, Münster, GER

17:40–18:10 **T 64** **Georg Krainer,** University of Cambridge, UK
Next generation microfluidic approaches for protein biophysics

18:15–18:30	**DGfB Section Meetings**	
	Section I – Molecular Biophysics	**A 702**
	Section II – Membrane Biophysics	**A 703**
	Section III – Cellular Biophysics	**A 704**
18:30–19:30	**DGfB General Assembly**	**A 701**
TBA	**Guided City Tours**	

WEDNESDAY, SEPTEMBER 28TH, 2022

Plenary Session 6 **Audimax**
08:30–10:30 **Chair:** Michael Kovermann, Konstanz, GER

08:30–09:00 **T 65** **Gary Pielak,** Chapel Hill, USA
Protein- & protein-complex stability in living cells

09:00–09:30 **T 66** **Stefan Weber,** Freiburg, GER
EPR and NMR studies of paramagnetic intermediates in the primary processes of blue-light photoreceptor proteins

09:30–10:00 **T 67** **Florian Stengel,** Konstanz, GER
Studying proteome organization and cellular compartmentalization: from proteins to functional compartments

10:00–10:30 **T 68** **Charlotte Uetrecht,** Hamburg, GER
Flying viruses – understanding corona- and norovirus lifecycles

10:30–11:00 **Coffee Break**

Parallel Session 5A – Imaging, Microscopy, Single Molecule Biophysics II
11:00–12:00 **Chair:** Don Lamb, München, GER **A 701**

11:00–11:15 **T 69** **Andre C. Stiel,** München, GER
Photoswitching across the scales – photoswitching proteins in super-resolution microscopy and optoacoustic imaging

11:15–11:30 **T 70** **Hauke Winkelmann,** Osnabrück, GER
Quantifying cytokine receptor dimerization dynamics in the plasma membrane by smFRET

11:30–11:45 **T 71** **Nazar Oleksiievets,** Göttingen, GER
Single-molecule fluorescence lifetime imaging using wide-field and confocal-laser scanning microscopy: a comparative analysis

11:45–12:00 **T 72** **Daniel Dornbusch,** Dresden, GER
Anion-specific Sstructure and stability of guanidinium-bound DNA origami

Parallel Session 5B – Photobiophyscis, Electron and Proton Transfer
11:00–12:00 **Chair:** Tilman Kottke, Bielefeld, GER **A 703**

11:00–11:15 **T 73** **Patrycja Kielb,** Bonn, GER
Do Tyr/Trp redox pathways protect O2-reducing C. Coelicolor laccase from oxidative damage?

11:15–11:30 **T 74** **Sarah M. Mäusle,** Berlin, GER
S-state Transitions of Photosystem II from Spinach and T. elongatus – Insight by Time-Resolved Single-Frequency Infrared Spectroscopy

11:30–11:45 **T 75** **Jheng-Liang Chen,** Berlin, GER
Revealing the mechanism of a light-driven inward proton pump, NsXeR, by site-directed mutagenesis and spectroscopic investigations

11:45–12:00 **T 76** **Florian Brünig,** Berlin, GER
Spectral signatures of excess-proton waiting and transfer-path dynamics

Parallel Session 5C – Biospectroscopy II **A 704**
11:00–12:00 **Chair:** Jochen Balbach, Halle, GER

11:00–11:15 **T 77** **Luuk van Wilderen,** Frankfurt, GER
Femtosecond-to-millisecond mid-IR spectroscopy of Photoactive Yellow Protein uncovers structural micro-transitions of the chromophore's protonation mechanism

11:15–11:30 **T 78** **Tiago Mendes Ferreira,** Halle, GER
Towards complex biological lipid bilayers by solid-state NMR spectroscopy

11:30–11:45 **T 79** **Jacek Kozuch,** Berlin, GER
Nitrile infrared intensities characterize electric fields and hydrogen bonding in protic, aprotic, and protein environments

11:45–12:00 **T 80** **Elena Erben,** Dresden, GER
Optofluidic method for highly precise and non-invasive manipulations on the microscale

Poster Awards and Closing **Audimax**
12:10–12:30

MONDAY, SEPTEMBER 26TH, 2022 A 701

15:00–15:15 **Andreas Hugi**, IR Sweep AG
Mid-infrared QCL dual-comb spectrometer for advanced bio-applications

15:15–15:30 **Anja Huss**, Thorlabs
Large Apperture Raman Spectrometer

15:30–15:45 **Philipp Hanisch**, Cube Biotech
Copolymer vs Detergent – an advanced toolbox for native membrane protein solubilization and stabilisation

15:45–16:00 **Simona Stelea**, Rapp Optoelectronics
FLUCS Micro Flow Photomanipulation for Cell Biology and Micro Fluidics

16:00–16:15 **Michael Kehr**, Hamamatsu Photonics
Igniting Questions, Detecting Answers: Hamamatsu Photonics presents the world's first photon-number-resolving scientific camera

TUESDAY, SEPTEMBER 27TH, 2022 A 701

15:00–15:15 **Matthias Godejohann**, MG Optical Solutions
Recent achievements in vibrational QCL-IR spectroscopy

15:15–15:30 **Kristina Popova**, Dynamic Biosensors
Helix: The Modular Biosensor for Measuring Interactions from Small Molecules to Cells

15:30–15:45 **Matthias Langhorst**, Refeyn Ltd.
Mass photometry – an analytical technology for biomolecular characterization

15:45–16:00 **Eric Klein**, Bruker Optics
FT-IR and QCL imaging application with Bruker HYPERION II

16:00–16:15 **Philipp Rauch**, LUMICKS
Single molecule biophysics with correlative fluorescence optical tweezers

2024 IUPAB CONGRESS

+ 62nd Annual Meeting of the Biophysical Society of Japan

JUNE 24-28

at the **KYOTO INTERNATIONAL CONFERENCE CENTER**

Program Overview:

10 Plenary Lectures
(including IUPAB lectures),
25-30 Symposia,
500+ Posters.

~ 70 Bursaries available

Research Topics:

- Structural biology
- Membrane/organelle dynamics
- Single-molecule biophysics
- Bioimaging
- Theoretical biophysics
- *De novo* enzyme design
- Machine learning in biophysics
- LLPS/membrane-less organelle
- Synthetic biology
- Origin-of-life/artificial cell

+ Hands-on Training Programs

The Biophysical Society of Japan

IUPAB
Connecting the World of Biophysics

23rd IBC

Conference Chair: Prof. Dr. Klaus Gerwert

Biophysics for health and disease

Berlin
Germany

10th - 14th Oct. 2027

Poster Session 1 (**odd numbers**): Monday, Sep 26, 2022: 15:00-16:30

Poster Session 2 (**even numbers**): Tuesday, Sep 27, 2022: 15:00-16:30

Please check your poster number in the program booklet. Each session will be split in 2 groups, the presenters of group 1 (colored in blue) should be available at the poster for discussion from 15:00-15:45, the presenters of group 2 (colored in orange) from 15:45-16:30.

Posters should be displayed as long as possible, so that there is also ample time for discussions during the breaks. Poster walls are accessible from Sunday afternoon. Pins will be provided on the poster boards.

Plans with all poster sessions will be posted on-site so that you can easily find your poster location.

Please note that all posters should be hanging on Monday morning by 10:00 and need to be taken off on Tuesday by 18:30. Left posters will be removed afterwards.

All posters participate in the poster contest and are rated by the conference participants according to scientific quality and visual appearance. Each participant can give a digital vote until Wednesday morning, Sep 28, 2022, 9:00 by choosing three (different) favorite poster numbers. You can access the voting procedure by scanning the QR Code below. The link will also be provided at the poster session or by visiting our website.

The three best posters will be awarded with poster prizes. Each poster prize comes with a prize money of 200 Euros each donated by the German Biophysical Society. The poster prizes will be awarded in the closing ceremony on Wednesday, Sep 28, 2022, 12:10-12:30, Audimax.

SESSION 1: PROTEIN STRUCTURE, DYNAMICS AND FUNCTION

P001	**Investigation of proton motive force establishment from single cytochrome c oxidase enzymes using a fluorescence assay based on a voltage-sensitive protein** Jens Balke, Berlin, DE
P002	**Effect of O-Glycans on Structure and Friction of the Intrinsically Disordered Synovial Joint Protein Lubricin** Saber Bousheri, Karlsruhe, DE
P003	**Conversion of a Halogenase to a Photoenzyme: Impact of Tryptophans Identified by FTIR, Difference Spectroscopy** Niklas Diepold, Rahden, DE
P004	**Role of Obscurin Dual-Kinase System in Mechanosensing in Active Muscles** Till Dorendorf, Konstanz, DE
P005	**Effect of Multivalent Salts on Protein Diffusion under Crowding Conditions** David Haselberger, Halle (Saale), DE
P006	**How redox-state of the -2 disulfide bond in HLA-B*1501 affects the binding groove opening** Jose Saul Hernandez Fragoso, Jülich, DE
P007	**Structure and Organization of monoclonal antibodies at the air/water interface in the presence of pharmaceutical polymers** Elise Johanna Hingst, Halle, DE
P008	**Influence of pH on Fibrinogen and its Surrounding Ions during Salt-Induced Fiber Assembly** Jana Lierath, Bremen, DE
P009	**Activity boost of Thermomyces lanuginosus lipase by interaction with polymethyl methacrylate** André Lorenz, Krefeld, DE

P010	**Understanding the determinants of complex formation between the Archaeoglobus fulgidus, Ammonium transporter Amt2 and its regulatory partner GlnK2** Fernando Ormeno, Freiburg, DE
P011	**Spin-labelling via metabolic glycoengineering for studying post-translational protein modification by electron paramagnetic resonance spectroscopy** Anna Rubailo, Konstanz, DE
P012	**The energy barrier for the alternating access of an ATP-Binding Cassette (ABC) exporter** Michael Rudolph, Frankfurt am Main, DE
P013	**Active Site and Gates Structure of Chrimson Wild-Type and Mutants and their Absorption Spectra** Katharina Spies, Karlsruhe, DE

SESSION 2: DNA, RNA, GENETIC REGULATORY SYSTEMS

P014	**The chromatin remodeler ISWI transiently bridges phase separated chromatin fibers in an ATPdependent manner** Dieter Kamp, München, DE
P015	**Towards the genetic clearance of living tissues to improve imagin** Susan Wagner, Dresden, DE
P016	**Charge renormalization in DNA oligonucleotides** Xin Zhu, Oxford, GBR

SESSION 3: PHOTOBIOPHYSICS, ELECTRON & PROTON TRANSFER

P017	**Ultrafast Photoinduced Dissociation of Delphinidin-3-Rutinoside** Florian Bartonitz, Berlin, DE

P018	**Proton channel communication in cytochrome c oxidase** Metehan Celebi, Berlin, DE
P019	**Investigating D1-Glu189 variants of Photosystem II by time-resolved O2-polarography** Kalman Christer, Berlin, DE
P020	**Tracking water oxidation through time-resolved FTIR Spectroscopy** Paul Greife, Berlin, DE
P021	**The photoreaction of the proton-pumping rhodopsin 1 from the maize pathogenic Basidiomycete Ustilago maydis** Mariafrancesca La Greca, Berlin, DE
P022	**Structural and dynamic analysis of the third conformational state of T4 Lysozyme by photoinduced electron transfer** Alexander Larbig, Düsseldorf, DE
P023	**Proton collecting antenna residues at the K-channel entrance of the redox-coupled proton pump cytochrome c oxidase** Victor Manuel Loyo Cruz, Berlin, DE
P024	**Simulation of Exciton Transfer in Light-Harvesting Complexes using Machine Learning Techniques** Monja Sokolov, Berlin, DE
P025	**Complex formation of FDH:MBH using Coarse Grained Molecular Dynamics Simulation** Meritxell Wu Lu, Berlin, DE
P026	**Ultrafast Protein response of Bacteriorhodopsin** Clark Zahn, Berlin, DE

SESSION 4: CHANNELS AND TRANSPORTERS

P027	**Heterotrimeric concatamers of ionotropic P2X4 and P2X7 receptors** Malte Berthold, Halle (Saale), DE

P028	**The functional interplay of the ABC transporter PgP with its lipid substrates** Dario De Vecchis, Bochum, DE
P029	**Expression and purification of connexin 43 for electrophysiological studies** Manuel Fink, Göttingen, DE
P030	**Investigation of conformational changes at the K-channel entrance of cytochrome c oxidase using the fluorescent molecular rotor Sulfo-Cy3-maleimide and site-directed labeling** Jacqueline Gottwald, Berlin, DE
P031	**Complex interactions of the antidepressant clomipramine with an ABC transporter** Nadja Hellmann, Mainz, DE
P032	**pH-dependent gating of the human voltage-gated proton channel from molecular dynamics simulations** Christophe Jardin, Nürnberg, DE
P033	**Identification of residues involved in homotrimeric stabilization of the hP2X4R receptor channel by molecular dynamic simulations** Aparna Sai Malisetty, Bremen, DE
P034	**A vibrational spectroscopic Approach to elucidate the molecular Mechanism behind the Channel Activity of Viroporins** Ronja Paschke, Berlin, DE

SESSION 5: PROTEIN AGGREGATION AND DISEASES

P035	**When are Amyloid β Fibrils Most Toxic? Combining two Fluorescence Assays Can Help Answering this Question.** Juliane Adler, Leipzig, DE
P036	**Salt-induced precipitation of fibrinogen: new insights from experiments and simulations** Susan Köppen, Bremen, DE

P037	**C25-modified rifamycin derivatives with improved activity against Mycobacterium abscessus** Laura Paulowski, Borstel, DE
P038	**Aggregation behaviour of beta-lactoglobulin and beta-lactoglobulin fragments** Srdjan Pusara, Eggenstein-Leopoldshafen, DE

SESSION 6: MEMBRANE BIOPHYSICS, MEMBRANE PROTEINS AND PROTEIN-LIPID INTERACTIONS

P039	**Ceramide and Annexin A1 membrane binding; Insights from QCM-D** Lisa Baum, Münster, DE
P040	**Antimicrobial Peptides Induce Membrane Permeabilisation and Lipid Clustering** Katharina Beck, Freiburg, DE
P041	**Electron spin resonance spectroscopic investigation of the lipopolysaccharide exporter** Marina Dajka, Frankfurt am Main, DE
P042	**POPS-doted solid-supported lipid bilayers as a membrane model for the GABAergic post synapse** Lara Dohmen, Göttingen, DE
P043	**Small molecules can modulate phase separation in complex membranes** Oskar Engberg, Leipzig, DE
P044	**Martini Cholesterol gives membranes the chills and what you can do about it** Balázs Fábián, Frankfut am Main, DE
P045	**Lipid phase transitions in cell and synthetic membranes** Nicolas Färber, Augsburg, DE

P046	**A versatile toolbox for constructing nanoscale signaling platforms in live cells** Arthur Felker, Osnabrück, DE
P047	**Reconstituting ATP synthase and monitoring its activity in photoacid-containing vesicles** Hendrik Flegel, Göttingen, DE
P048	**Beta2-adrenergic receptor promotes transmembrane ligand flip-flopping** Christina Gil Herrero, Frankfurt am Main, DE
P049	**Polymer nanodiscs for single-molecule protein spectroscopy** David Glück, Graz, AT
P050	**Azobenzene based lipids and light-induced switching of membrane properties** Justin Hornbogen, Kaiserslautern, DE
P051	**Lipid Membrane Modulation under Hypoxia: Towards Lipid-Based Therapy & Diagnosis in Pancreatic Cancer** Prema Kumari Agarwala, Bombay, Indien
P052	**ATR-FTIR spectroscopy of calcium-dependent lipid-binding proteins** Shane Maguire, Konstanz, DE
P053	**Investigation of the influence of lipid bilayer lateral pressure on Bacteriorhodopsin functionality** Raiza Maja, Berlin, DE
P054	**Unravelling the Molecular Mechanisms of Hepatitis C Virus Assembly** Titas Mandal, Potsdam, DE
P055	**Regulation of JAK activation by the membrane environment** Thomas Meyer, Osnabrück, DE
P056	**Atomic force microscopic experiments to decipher the function of Candidalysin** Simon Pennuttis, Bad Oldesloe, DE

P057	**Interplay of local spontaneous membrane curvature and cholesterol asymmetry** Matthias Pöhnl, Erlangen, DE
P058	**Lipid specificity of Viral Fusion Proteins** Chetan S Poojari, Saarbrücken, DE
P059	**Inside out – The role of mycobacterial ESX secretion systems in phagosome escape** Monika Rangole, Sulfeld, DE
P060	**Membrane interactions and curvature sensing of the autophagic LC3 lipidation machinery** Shanlin Rao, Frankfurt am Main, DE
P061	**Mimicking the minimal neuronal fusion machinery** Merve Sari, Göttingen, DE
P062	**Nanostructured lipid carriers for chronic inflammation in non-healing skin wounds based on promising natural bioactive compounds** Proscila Schilrreff, Berlin, DE
P063	**An Azidolipid Monolayer Transitions, Miscibility, and UV Reactivity studied by Infrared Reflection Absorption Spectroscopy** Christian Schwieger, Halle (Saale), DE
P064	**Are pure-protein bilayers similar to lipid bilayers?** Leonhard Starke, Saarbrücken, DE
P065	**Resolving lipid dynamics in the photocycle of bacteriorhodopsin by mid-IR quantum cascade laser spectroscopy** Paul Stritt, Konstanz, DE
P066	**From cell to substrate – A plasma membrane system for Cav1.3 cluster detection** Nikolas Teiwes, Göttingen, DE
P067	**Two cooperative binding sites sensitize PI(4,5)P2 recognition by the tubby domain** Sebastian Thallmair, Frankfurt am Main, DE

P068	**Designed membrane protein heterodimers and control of their affinity by binding domain and membrane linker properties** Maximilian Ulbrich, Freiburg, DE
P069	**The role of membrane composition in JAK binding** Isabelle Watrinet, Osnabrück, DE
P070	**Lipid membrane dynamics via joint analysis of NMR and MD** Kai Zumpfe, Leipzig, DE

SESSION 7: CELL BIOPHYSICS, INTRACELLULAR TRANSPORT AND SIGNALLING

P071	**Surface acoustic waves stimulate wound healing in vitro** Kathrin Baumgartner, Augsburg, DE
P072	**Sustainability from a Cell's Perspective** Ronald Clarke, Sydney, AUS
P073	**Exploring the Mechanism of Autophosphorylation in the Bacterial Sensory System using QM/MM Studies** Lena Eichinger, Karlsruhe, DE
P074	**Live or let die: Bcl-2 protein transmembrane domain interactions in apoptosis signaling** Thomas Peter Fellmeth, Ostfildern, DE
P075	**Super-resolution microscopy of GSDMD pores in polymer-supported plasma membranes** Shirin Kappelhoff, Osnabrück, DE
P076	**Mechanical and adhesive properties of Pancreatic ductal adenocarcinoma cells** Shruti G Kulkarni, Bremen, DE
P077	**Optically controlled micro-transport at microscale with reduced heating impact** Antonia Minopoli, Dresden, DE

P078	**The effective dynamic elastic modulus of cancer cells as function of the membrane order** Simon Neidingen, Schwabmünchen, DE
P079	**Comparison of healthy versus Dupuytren fibroblasts behavior in 3D-collagen I matrices** Sandra Pérez Dominguez, Bremen, DE
P080	**2D Mechanoresponsive Surfaces for Measuring Cellular Traction Forces** Russel Wilson, Linz, AT

SESSION 8: COMPUTATIONAL BIOPHYSICS

P081	**Experiment-guided molecular simulations reveal the heterogeneous ensemble of the SH2 tandem of SHP2 phosphatase** Massimilano Anselmi, Saarbrücken, DE
P082	**Mechanistic Insight into the Early Events of the Activation of the c-Met Receptor during Listeria Invasion** Maria Serena Arghittu, Frankfurt am Main, DE
P083	**QM/MM Molecular Dynamics Simulation of Thiol-Disulfide Exchange by Glutaredoxin** Julian Böser, Karlsruhe, DE
P084	**Energetics and permeation of photo-resists used for 3D-laser printing across biological lipid bilayers** Lucas Diedrich, Heidelberg, DE
P085	**Simulation-based inference for single-molecule force-spectroscopy experiments** Lars Dingeldein, Frankfurt am Main, DE
P086	**The roles of PIP2 lipids in based signalling of ß2-adrenergic receptor** Wenzel Gaßner, Stuttgart, DE

P087	**Multiscale simulations of proteins** Christoph Globisch, Konstanz, DE
P088	**Investigations into Single Transduction Mechanism in Phytochromes** Oanh Tu Hoang, Berlin, DE
P089	**Constant pH Simulations of the Proton Exit Channel in P. Denitrificans Cytochrome c Oxidase** Jesse William Jones, Berlin, DE
P090	**Free Energy Simulations of Electroporation** Gari Kasparyan, Saarbrücken, DE
P091	**Molecular Transport in Mesoporous Carbon Materials** Sofia Kolin, Stuttgart, DE
P092	**What the Phos? Parametrizing Protein Phosphorylation for the CHARMM36 and Martini Force Fields** Viktoria Korn, Stuttgart, DE
P093	**Artificial intelligence sheds light on protein folding dynamics at the atomic scale** Gianmarco Lazzeri, Frankfurt am Main, DE
P094	**Investigation of Ion Permeations through CNGA1 Channels by Molecular Dynamics Simulations** Haoran Liu, Berlin, DE
P095	**Generalized workflow for automated evaluation of isothermal microcalorimetry traces** Mani Lokamani, Dresden, DE
P096	**QM/MM metadynamics of thiol-disulfide exchange using a neural network correction** Denis Maag, Karlsruhe, DE
P097	**Overcoming hysteresis in ligand binding free energy calculations** Alejandro Martínez-León, Saarbrücken, DE
P098	**Resolution transformation in molecular dynamics: Boosting backmapping via knowledge-driven machine learning** Christian Pfaendner, Stuttgart, DE

P099	**Towards excitonic properties of antenna complexes in Photosystem II** Pooja Sarngadharan, Bremen, DE
P100	**Sublytic gasdermin-D pores captured in atomistic molecular dynamics simulations** Stefan Schäfer, Frankfurt am Main, DE
P101	**Effect of Transmembrane Domains on the Free Energy of Stalk Nucleation during Membrane Fusion** Katharina Scherer, Saarbrücken, DE
P102	**GlycoSHIELD: an online tool to address glycan dynamics and heterogeneity in glycoproteins** Mateusz Sikora, Frankfurt am Main, DE
P103	**Modelling drug permeation using simulated tempering-enhanced umbrella sampling** Carla F. Sousa, Saarbrücken, DE
P104	**Investigating human Ire1 assembly process via multiscale Molecular Dynamics simulations** Elena Spinetti, Frankfurt am Main, DE
P105	**The Role of Interfacial Water in Biomolecular Interactions** Rowan Walker-Gibbons, Oxford, GBR

SESSION 9: BIOMOLECULAR SPECTROSCOPY

P106	**FTIR spectroscopy on the carbonyl region of variations of photosystem I isolated from cyanobacteria** Viktor Eichmann, Berlin, DE
P107	**FTIR and UV-Vis spectroscopic studies of a Rhodopsin Guanylyl Cyclase** Paul Fischer, Berlin, DE

P108	**Signal Progression in a LOV Photoreceptor Studied by Time-resolved In-Cell Infrared Difference Spectroscopy** Lukas Goett-Zink, Bielefeld, DE
P109	**Adsorption of shape-directing agents to differently shaped ZnO particles** Wolfgang Hinze, Konstanz, DE
P110	**Dual-comb-IR-spectroscopy to study temperature-jump dynamics of polyQ model peptides** Lorenz Mattes, Konstanz, DE
P111	**The Photo-physics of 2-Cyanoindole probed by Femtosecond Spectroscopy** Mahbobeh Morshedi, Düsseldorf, DE
P112	**In-cell Infrared Difference Spectroscopy on the Bacterial Chloride Pump NmHR** Sabine Oldemeyer, Berlin, DE
P113	**CASS – A new tool to investigate dynamics in complex samples** Moritz Schlötter, Konstanz, DE
P114	**The global conformation of the kinase Akt1 monitored by DEER spectroscopy and multilateration** Juliane Stehle, konstanz, DE
P115	**Photophysics and photochemistry of a new fluorescent molecular rotor dye: CCVJ boronic acid** Florian Telschow, Blankenfelde-Mahlow, DE
P116	**Structural and functional determinants governing constitutive dimerization of an oncogenic gp130 mutant** Steffen Wolke-Hanenkamp, Osnabrück, DE

SESSION 10: IMAGING, MICROSCOPY, SINGLE MOLECULE BIOPHYSICS

P117	**Surface plasmon resonance microscopy as a platform to assess cell-substrate separation using HEK293 cells as a model** Justus Bednár, Jülich, DE
P118	**Far-field electrostatic signatures of macromolecular 3D conformation** Timothy Bennett, Oxford, GBR
P119	**Controlled mechanochemical coupling in DNA origami arrays** Fiona Cole, München, DE
P120	**Reversibly labeled HaloTags enable live cell long-term high- and superresolution imaging** Michael Holtmannspötter, Osnabrück, DE
P121	**Screening for GHOSTs (Genetically Enhanced Optically uperior Tissues).** Venkat Raghavan Krishnaswamy, Dresden, DE
P122	**Studying biomolecular dynamics and structure with high-speed atomic force microscopy** Florian Kumpfe, Berlin, DE
P123	**An easy and reliable way to perform single molecule FRET measurements** Maria Loidolt-Krüger, Berlin, DE
P124	**Nanomechanics of molecular motor molecules linked by self-assembled DNA building blocks** Inga Melnyk, Saarbrücken, DE
P125	**Dual color subunit counting method using GFP/YFP overlapping spectra** Antara Mukhopadhyay, Freiburg im Breisgau, DE
P126	**Spatiotemporal dynamics of IL-17 family receptor signaling complexes in the plasma membrane** Christoph Pollmann, Osnabrück, DE

P127	**Thermodynamic behaviour of EGFP-Booster-antibody-binding using brightness-gated two color coincidence detection** Benno Rüdiger Schedler, DE
P128	**Molecular Adhesion and Friction on Porous Membrane** Kordula Schellnhuber, Saarbrücken, DE
P129	**Fluorescence Lifetime DNA-PAINT for Multiplexed Super-resolution Imaging of Cells** Roman Tsukanov, Göttingen, DE
P130	**Microgels as carrier systems for enzymes studied with a combination of different super-resolution fluorescence microscopy methods** Dominik Wöll, Aachen, DE
P131	**Brightness-gated two-color coincidence detection for characterization of picomolar affinity bimolecular interactions** Olessya Yukhnovets, Aachen, DE
P132	**Single immune-complex detection by Escape-Time electrometry** Konstantin C. Zouboulis, Oxford, GBR

WELCOME RECEPTION

Sunday, September 25, 2022, 19:00 – 21:00

The welcome reception will take place in in the foyer of the A-building at the University of Konstanz right after the opening plenary session on Sunday. All participants are cordially invited to join this Get-Together with food and drinks subsequent to the conference's kick-off and to spend a pleasant evening with colleagues.

BOAT TRIP AND CONFERENCE DINNER

Monday, September 26, 2022

Boat Trip: Departure **17:30** at the university – Arrival **19:30** at the city harbor of Konstanz
Conference Dinner Konzil: **19:30 – 22:00**

For Monday evening we have organized a boat trip on Lake Constance and the Conference Dinner. For both events prior registration was required, last minute participation is not possible, unfortunately. The meeting point for the boat trip is in the exhibition hall at 17:30. There will be a short bus ride from the university to the boat landing stage. The boat will pass beautiful sights of Lake Constance (prehistoric settlement on the lake shore, Birnau Monastry, Mainau Island). You will enjoy a 1 hour boat trip including a Sundowner. The boat trip ends in the city harbor of Konstanz. The conference dinner will take place in the historic Konzil building at the city harbor which is located close to the city center. You will have the opportunity to chat with colleagues and enjoy a relaxing evening.

Address Konzil: Hafenstraße 2, D-78462 Konstanz, www.konzil-konstanz.de

GUIDED CITY TOURS

Tuesday, September 27, 2022

On Tuesday evening you can join one of our city tours with professional tourist guides in the historic old part of Konstanz. There will be a number of themed tours to choose from (dependent on availability) offered in German and English language. Let us know during the conference at the registration desk if you are interested (no later than 13:00 on Tuesday). Here you can also pay the fee of 5 Euros in cash. Transfer to the city center is by public bus (free with the conference ticket). Leave the bus at station „Marktstätte", walk to the harbor, meeting point is at the harbor clock close to the Konzil building.

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DGfB Deutsche Gesellschaft für Biophysik e.V.

German Biophysical Society e.V.

The DGfB e.V. promotes and disseminates science and research in the field of biophysics, represents its interests and supports the exchange of scientists working in the field of biophysics.
A central task of the DGfB is the promotion of young scientists with the focus on scientific competences, professional career, networking and acquisition of external funds.

Section 1: Molecular Biophysics

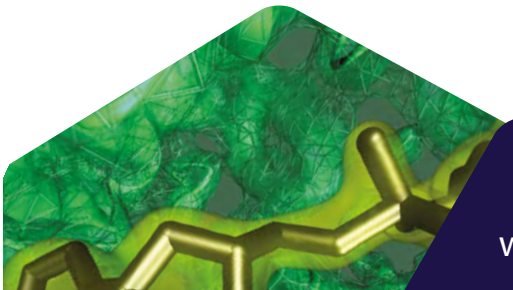
Molecular Biophysics combines experimental approaches (from single molecule imaging to mechanical studies and crystal structures) with theoretical methods to understand the broad spectrum of life processes at the molecular level.

Section 2: Membrane Biophysics

Biomembranes form the universal envelopes of all cells and organelles and, together with integrated proteins, are the basic building blocks for communication between cells and in cellular networks.

Section 3: Cellular Biophysics

Cellular Biophysics analyses life processes at the level of organelles and whole cells. Integrative matching of experiments and models are the basis for building quantitative models.



www.dgfb.org

Save the date:

German Biophysical Society Meeting
September 22-25, 2024
Leipzig, Germany

DGfB Deutsche Gesellschaft für Biophysik e.V.

UNIVERSITÄT LEIPZIG

Biennial Meeting of the German Biophysical Society

LEIPZIG 24

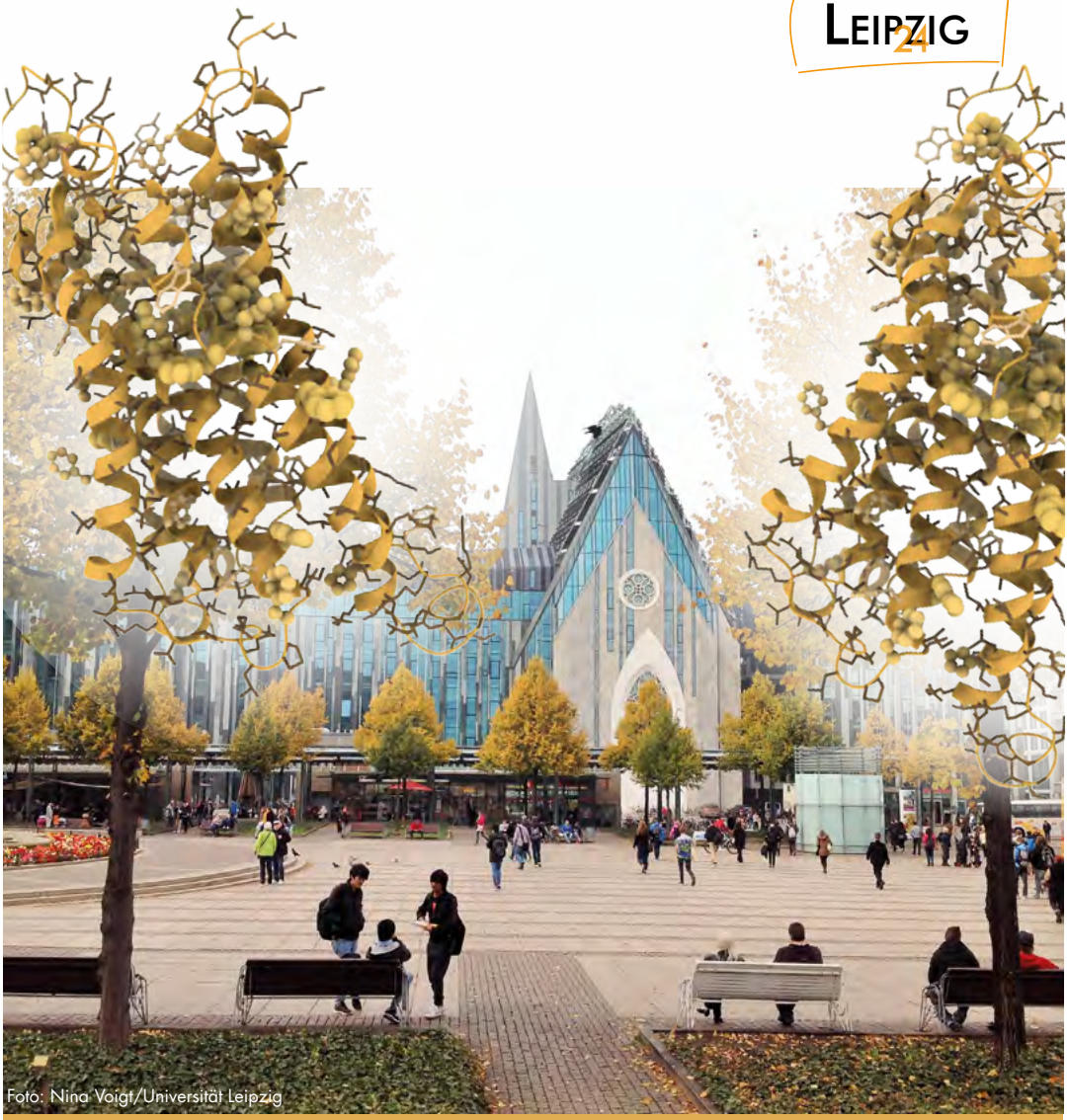


Foto: Nina Voigt/Universität Leipzig

https://www.dgfb.org/de/dgfb-tagungen/german-biophysical-society-2024-leipzig.html

Universität Konstanz

Research between lakeside and mountaintops

The University of Konstanz is one of eleven Universities of Excellence in Germany and has been successful in all three funding lines of the Excellence Initiative since 2007.

Research in Konstanz means

- **Culture of Creativity:** Promoting creative processes is key to our institutional strategy.
- **Excellence in research and teaching:** We promote excellence in research and advance research oriented teaching.
- **Interdisciplinary collaboration:** We encourage collaboration across disciplinary boundaries.
- **Internationality, equal opportunity, family friendliness:** we promote an open, communicative and international environment

More information here:
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Curious?

Scan the QR code to find out more about the University of Konstanz.

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