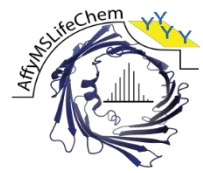




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Hochschule Rhein Main & Steinbeis Centre for Biopolymer Analysis & Biomedical Mass Spectrometry, Rüsselsheim am Main

August 19 – 25th 2018 - Hochschule Rhein Main, Am Brückweg 26,
65428 Rüsselsheim

International Symposium & Summer School:

“Mass spectrometry in Medical Technology and Biotechnology”

Introduction of the Master Course “Medizintechnik/ Medical Technology”

Topics:

Antibody Characterization Peptide & Protein Epitope Identification –
New Developments in Protein Therapy Clinical Diagnostics &
Biomarkers Protein Aptamers New Proteomics Tools Biosensors
and Affinity- Mass Spectrometry New Developments in MS
Technologies

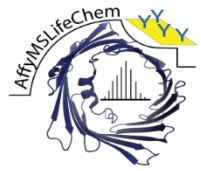




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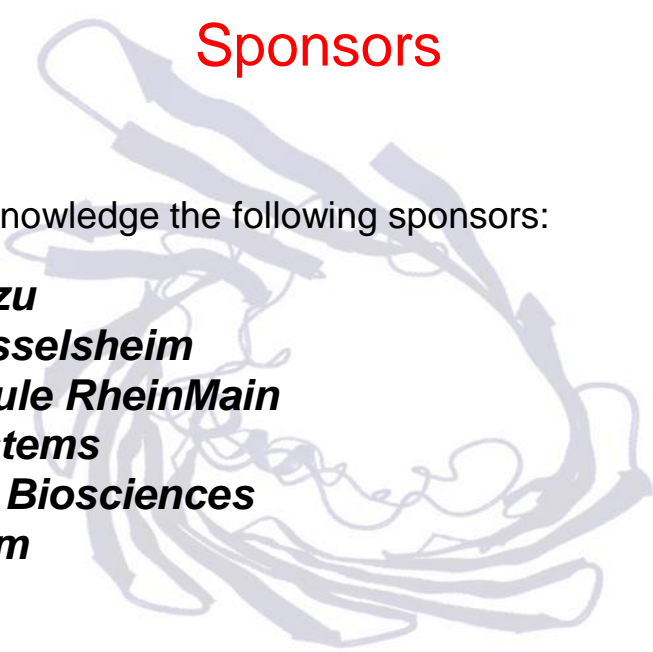
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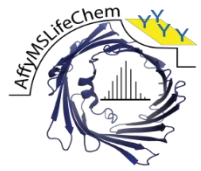

IL
Biosystems



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Hochschule Rhein Main & Steinbeis Centre for Biopolymer Analysis & Biomedical Mass Spectrometry

International Workshop & Summer School:

“Mass spectrometry in Medical Technology and Biotechnology”

Introduction of the Int. MSc Course “Medizintechnik/ Medical Technology”

Programme Overview

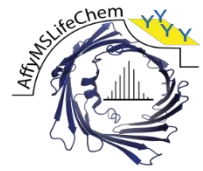
Sunday, Aug. 19, 2018	Opening; Presentation of MSc Course
Mo/Tu Aug. 20/21:	MS Technologies & Medical Applications Antibody & Epitope Analysis
Wed Aug 22	Biopolymer Interaction Analysis; New Biomedical Technologies
Aug 23-24, 2018:	Practicals: Technologies for Antibody Epitope Analysis; SPR-MS; New Proteolysis Techniques



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International Workshop & Summer School:

“Mass spectrometry in Medical Technology and Biotechnology”

Introduction of the Int. MSc Course “Medizintechnik/ Medical Technology”

August 19 – 25th, 2018 Rüsselsheim, Hochschule Rhein-Main

We cordially welcome you to the 1st Int. Workshop & Summer School “**Mass Spectrometry in Medical Technology and Biotechnology**”

which will be held on at the Hochschule Rhein-Main, Rüsselsheim am Main; with Research Practicals & Technology Demonstrations at the Steinbeis Centre for Biopolymer Analysis, Rüsselsheim am Main.

Scope:

This workshop & Summer School will be integrating both new developments in Medical Technology & Biotechnology, and the Introduction of a **New Master Course “Medical Technology / Medizintechnik”**, beginning in 2019 at the Hochschule Rhein Main. This workshop will encompass newest technologies, centered around mass spectrometry (MS) in biotechnology and clinical applications, particularly diagnostics and new therapeutic approaches based on antibodies and antibody epitopes; biochemical applications of affinity techniques; combinations of MS and biosensor tools for affinity determination and quantification; Identification of antigen epitopes and antibody paratopes; clinical applications of affinity- proteomics; new developments in medical imaging technologies. These technologies are gaining increased importance for many application areas in pharmacology, clinical diagnostics and the development of antibody-based drugs. The Workshop and Summer School program will comprise lectures, seminars & tutorials in these areas, and several practicals, performed in the Steinbeis Centre for Biopolymer Analysis.

We look forward to welcome you to this exciting Workshop and Summer School.

Michael O. Glocker, Wolfgang Kleinekofort, Bernd Schweizer Michael Przybylski

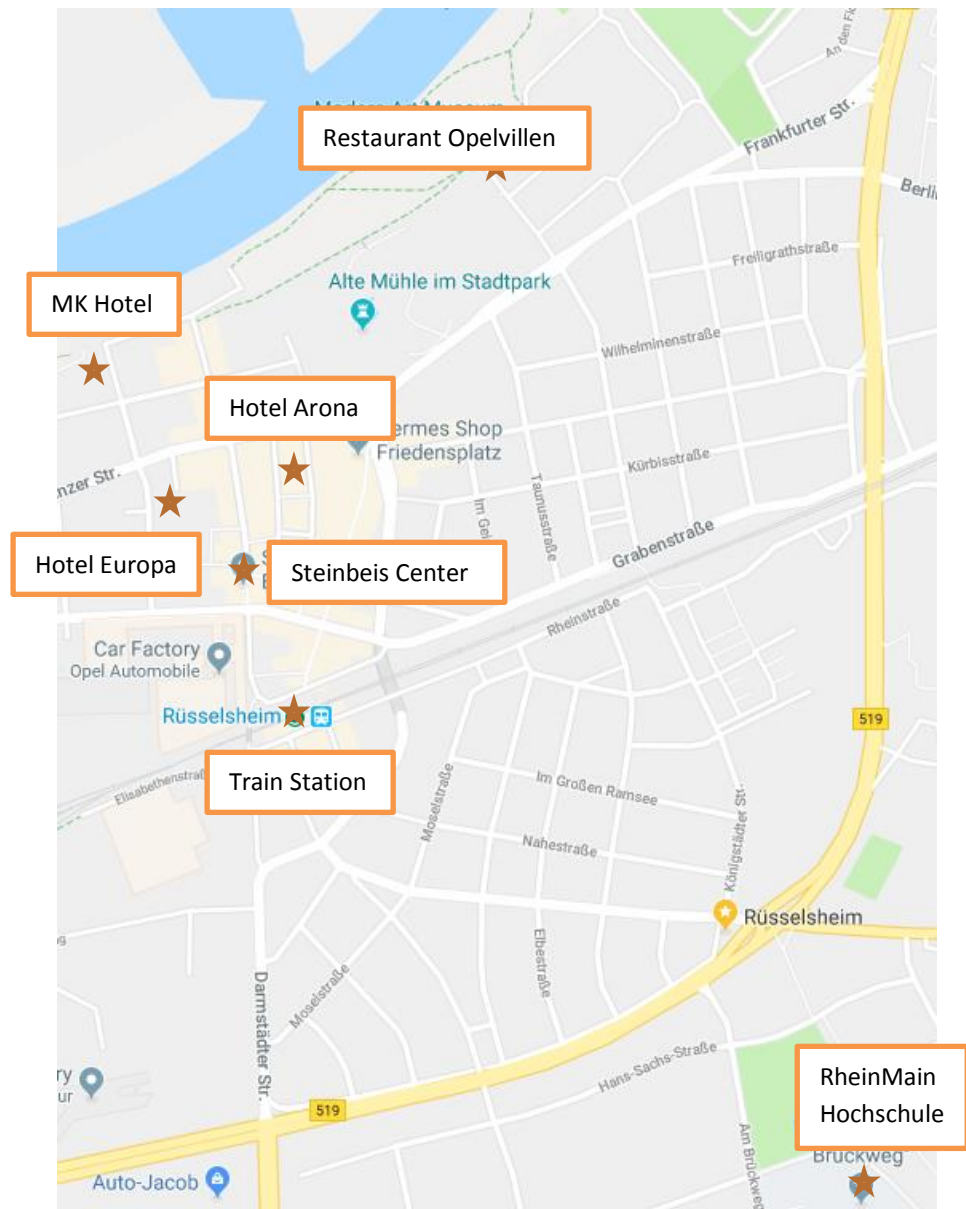
General Information

Venue:

- ✓ The international workshop **“Mass spectrometry in Medical Technology and Biotechnology”** will be held at RheinMain University, Rüsselsheim am Main, Germany, August 19 - 25, 2018.
- ✓ The *lectures* will be held at the Rhein Main University, Am Brückweg 26,65428 Rüsselsheim, building G. Room 02. Seminars, all exhibitions and posters will be in building G, Room 03 and at the entrance hall of building G.
- ✓ The *workshop dinner* will be at the Restaurant Opelvillen Rüsselsheim, Ludwig-Dörfler-Allee 9, Wednesday 22nd Aug, 19:30.
- ✓ *Research practicals* will be hold at Steinbeis Center, Marktstraße 29, Rüsselsheim am Main.

Accommodation

- Hotel Europa
Marktplatz 1, Rüsselsheim
Tel.: +49 (0) 6142 87 01 0
Fax: +49 (0) 6142 87 01 40
- Arona Hotel Atrium
Marktstraße 4,
Rüsselsheim
Tel.: +49 (0) 6142 91 50
Fax: +49 (0) 6142 91 51 11
- MK hotel
Mainstraße 4-6,
Rüsselsheim
Tel +49 8723 97871-2200
Fax +49 8723 97871-2220

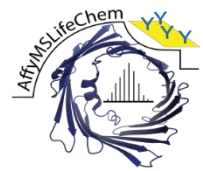




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International Workshop & Summer School

“Mass spectrometry in Medical Technology and Biotechnology” *Introduction of the Int. MSc Course* “Medizintechnik/ Medical Technology”

August 19 – 25, 2018 Hochschule RheinMain, Rüsselsheim am Main

Programme

Sunday, 19th August 2018

17.00 - **Registration & Welcome of Student Participants**
(Rhein Main University; Building G)

Monday, 20th August 2018

Rhein Main University
Am Brückweg 26
Building G, Lecture Hall 02

09:00 Registration & Welcome

10:00 **Welcome & Opening Addresses**

Wolfgang Kleinekofort, Rhein Main University; Dean,
FB Engineering Sciences
Opening of Workshop

Detlev Reymann, President, Rhein Main University
Welcome

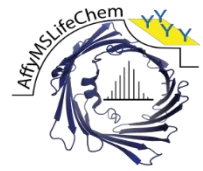
Udo Bausch, Oberbürgermeister, Stadt Rüsselsheim am Main
Welcome to Participants

Michael Przybylski, Director Steinbeis Transfer Centre
Biopolymer Analysis, Rüsselsheim am Main
Opening of Workshop



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- 11:00 **Wolfgang Kleinekofort**, Dean, FB Engineering Sciences,
Hochschule Rhein- Main, Rüsselsheim
Medical Technology: A New Master Course at Rhein Main
University
- 11.30 **Michael Przybylski**, Steinbeis Centre Biopolymer Analysis,
Rüsselsheim am Main
Medical Technology between Engineering Sciences and
Biochemistry - A challenging Marriage of Research & Teaching
Themes
- Session 1: Tools in Medical Technology & Biochemistry**
(Chair: Michael Przybylski)
- 12:00 **Anna Maria Papini**, University of Florence & Cergy-Pontoise
University Paris, Inter- Departmental Laboratory of Peptide
Science/Italy
A chemical approach to identify peptide epitopes for high affinity
antibodies in autoimmune diseases
- 12:45 *Lunch*
- 14:00 **Christina Uth, Sascha Knauer**, Sulfotools GmbH, Darmstadt
Clean Peptide Technology- Peptide Synthesis for the 21st
Century
- 14:45 **Anna Tramarin**, University of Bologna, Department of Pharmacy
& Biotechnology, Bologna/Italy:
New Insights into AGE-RAGE Interaction by Surface Plasmon
Resonance Biosensor and Affinity Mass Spectrometry
- 15:15 **Frederike Eggers**, University of Konstanz, Department of
Chemistry: Identification and functional characterization of
carbohydrate recognition structures in proteins
- 15:45 *Coffee Break*
- 16:15 **Maria Ilies**, Medical University of Cluj-Napoca, Department of
Pharmacy
Proteomics based plasma biomarkers for early detection of
pancreatic cancer
- 16:45 **Christoph Borchers**, MRM Proteomics Inc., Montreal; &
University of Victoria, Canada
ImmunoMALDI (iMALDI) for Precise Quantitation of Expression
and Modification of Poteins



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17:30 - 19.30

Poster Session I

Building G, Entrance Hall

Exhibitors Session I

Building G, Seminar Room 03

Tuesday, 21st August 2018

Rhein Main University
Building G Lecture Hall 02

Session 2

Medical Technology Tools for Biomolecular Interaction Analysis

(Chair: Christoph Borchers)

09:00

Stefan Slamnoiu, Bruker Daltonics, Bremen/Germany
Ionization Techniques for Mass Spectrometric Proteomics

09:45

Alexander Lazarev, Pressure Biosciences Inc., Boston/ USA:
High Pressure – an Emerging Powerful Dimension in Molecular Biophysics and Proteomics"

10:30

Coffee Break

11:00

Julian Elm, Shimadzu GmbH, Duisburg, Germany
New Innovations at Shimadzu

11:45

Christian Arlt, University of Halle, Department of Pharmacy
Chemical Crosslinking and mass spectrometry: An integrated mass spectrometry approach to probe the structure of the tetrameric p53 tumor suppressor"

12:30

Lunch

Session 3:

Proteomics and Mass Spectrometry

(Chair: Michael Glocker)

14:00

Andreas Meier, Friedemann Völklein, Rhein Main University, Rüsselsheim am Main, Institute for Microtechnologies
SPR Biosensor Analysis for Biomolecular Interaction studies

14:45

Frederik Barka, Sunchrom GmbH, Friedrichsdorf,
TBA

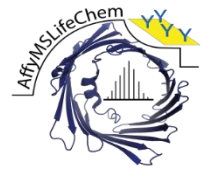
15:15

Katja Schmitz, Techn. University Darmstadt, Department of Biochemistry
Sequencing of polypeptides and peptidomimetics by mass spectrometry- a tutorial



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16:00 **Christopher Gerner**, University of Vienna, Institute of Analytical Chemistry/ Austria: Investigation of disease mechanisms by proteome profiling is an essential supplement for genomics

16:45 Announcement of posters

Discussion & Coffee break/refreshments & networking

17:30 - 19.00 **Poster Session II** Building G, Entrance Hall

Exhibitors Session II Building G, Seminar Room 03

Wednesday, 22nd August 2018

Rhein Main University

Session 4: Metabolic Diseases and mass spectrometry
(Chair: Katja Schmitz)

09:00 **Julia Hennermann**, University Medical Center Mainz/Villa Metabolica Mainz/ Germany
Development of New Treatment for Rare Diseases as illustrated by the Example of Lysosomal Storage Disorders

09:45 **Brindusa Petre**, Department of Chemistry, A.I. Cuza University of Iasi/Romania:
Clinical Diagnostics of Lysosomal Storage Disorders by Fluorimetry and MRM-Mass spectrometry

10:15 **Andreas Hahn**, Medical University Gießen, Department of Neuropediatrics, Gießen/ Germany
Identifying lysosomal protein antibody epitopes in patients treated with enzyme replacement therapy- an unmet need

11:00 Coffee Break

11:30 **Andre LeBlanc**, MRM Proteomics Inc.; Montreal/ Canada:
Development and validation of kits for multiplexed quantitative proteomics assays in medical research

12:00 **Michael Przybylski**, Steinbeis Centre for Biopolymer Analysis & Biomedical Mass Spectrometry, Rüsselsheim am Main/Germany:
Antibody Epitopes from Immunogenic Lysosomal Proteins: New approaches for therapeutic intervention in enzyme replacement therapy



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12:30 **Michael Baumann**, Sanofi Genzyme, Frankfurt
Lysosomal Storage Diseases at Sanofi- Genzyme: An Overview

13:00 *Lunch*

Session 5: Affinity- Mass Spectrometry: Tools for Molecular Epitope Analysis
(Chair: **Christopher Gerner**)

14:30 **Michael Glocker**, Medical University Rostock, Department of Immunology, Rostock/Germany
Mass Spectrometric Tools for Identification and Affinity Determination of Antibody Epitopes

15:15 **Yannick Baschung**, Steinbeis Centre for Biopolymer Analysis & Biomedical Mass Spectrometry, Rüsselsheim: Affinity- Mass Spectrometric Epitope Identification of Blood Group Oligosaccharides in Lectins

15:45 **Bright Danquah**, Proteome Center Rostock, University Medicine Rostock/ Germany
Intact Transition Epitope Mapping by mass spectrometry – Thermodynamic Weak Force Observation (ITEM- TWO)

16:15 *Coffee Break*

16:45 **Loredana Lupu**, Steinbeis Centre for Biopolymer Analysis and Biomedical Mass Spectrometry, Rüsselsheim am Main/ Germany:
Epitope identification and affinity determination of aptamer-protein interactions by SPR and mass spectrometry

17:15 **Andrei Neamtu**, IRO Transcend Institute, Iasi/Romania
In Silico Epitope Mapping Using Replica Exchange Molecular Dynamics (REMD) Simulation

18.00 *Concluding Discussion & End of Workshop Lectures*

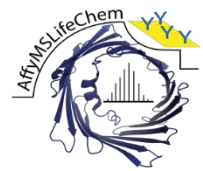
19:30 **Workshop Dinner**
Restaurant Opelvillen, Ludwig-Dörfler-Allee 9, Rüsselsheim



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Thursday, 23rd August 2018

Steinbeis Centre
Marktstraße 29
Laboratories & Seminar room

09:00 - ca. 13:00 **Research Practicals I**

- **HPLC- MS & Proteomics** (Yannick Baschung)
- **SPR & SAW Biosensor Analysis** (Loredana Lupu)

13:00 *Lunch*

Rhein Main University

15:00 - 17.30

Laboratory demonstrations

F. Abousamra (AG Schweizer / AG Kleinekofort):

Molecular imaging techniques

A. Meier / AG Völkein

Characterisation of thin films

Lithographic processes

Microtechnology in clean rooms

18:00 - **Students grill party**

Friday, 24th August 2018

Steinbeis Centre
Marktstraße 29

09:00 - ca. 16:00 **Research Practicals II**

- **HPLC- MS & Proteomics** (Yannick Baschung)
- **SPR & SAW Biosensor Analysis** (Loredana Lupu)
- **SPR-MS; Affinity-MS** (Loredana Lupu; Delia Mihoc)
- **MALDI-MS & protein applications** (Pascal Wiegand)
- **Automated protein sequence determination**
- **Chemical peptide synthesis**

20:00 **Farewell Party**

Steinbeis Centre
Marktstraße 29



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List of Posters

Name	Poster	Affiliation
Loredana Lupu	Combining Mass Spectrometry and SPR-Biosensor technology for epitope analysis in Aptamer-Protein interaction	Steinbeis Center
Yannick Baschung	Affinity and mass spectrometric approaches to investigate protein-carbohydrate interactions	Steinbeis Center
Pascal Wiegand	Identification and Affinity Determination of Antibody Epitopes against the Chemokine CXCL8 by High-Pressure Proteolytic Extraction Mass Spectrometry and Biosensor Analysis	Steinbeis Center
Delia Mihoc	Identification and characterization of peptidic epitopes using mass spectrometry and affinity methods	"Al. I. Cuza" University
Jureschi Monica	Synthesis and MS analysis of new peptides derived from Amyloid- β .	"Al. I. Cuza" University
Lupaescu Ancuta-Veronica	Anti-amyloidal NAP-like peptides: synthesis and characterization	"Al. I. Cuza" University
Nico Hüttmann	AptaBID as a method for Sgc8-aptamer molecular target identification using flow cytometry and mass spectrometry	University of Ottawa
Anna Tramarin	Epitope identification of glycated HSA and the extracellular region of human RAGE by SPR and affinity-MS spectrometry	University of Bologna
Julia Wack	Method development for the isolation and characterization of peptoids from one-bead-one-compound libraries for the inhibition of Interleukin-8	TU Darmstadt
Lorenza Fusi	TRRAP interaction may account for indirect gene regulation by FoxO forkhead transcription factors.	Universitätsklinikum Würzburg

