

**SWISS  
PHARMA  
SCIENCE DAY  
2022**



**SAPhS**  
Swiss Academy of  
Pharmaceutical  
Sciences

**Friday 19 August 2022**  
**Von Roll Campus University of Bern**



**«IMMUNOLOGY»**



# Intention

The SWISS PHARMA SCIENCE DAY (SPhSD) is an annual event of the Swiss Academy of Pharmaceutical Sciences (SAPhS, [www.saphw.ch](http://www.saphw.ch)). The 1<sup>st</sup> SPhSD was held on 9 October 2008, at the University of Bern. For congress reports 2008-2021 including all lecture and poster abstracts see [www.saphw.ch](http://www.saphw.ch)

The 15<sup>th</sup> SPhSD offers again a platform to present, in form of a poster session, the latest research results of Master and PhD students, as well as Post-Docs of the Swiss Academic Institutions for Pharmaceutical Sciences, i.e. ETH Zürich, University of Geneva, University of Basel, University of Bern, and University of Applied Sciences FHNW-School of Life Sciences MuttENZ.

The poster session is embedded in a series of lectures given by invited distinguished scientists representing the broad field of pharmaceutical sciences, such as Pharmaceutical Biology, Biotechnology, Technology, Chemistry, Analytics, Engineering, Pharmacology, and Molecular Biology.

One of the primary goals of the SPhSD is to further stimulate professional and social contacts between the students still undergoing training, and Alumni having already a position in industry, hospital, public health administration or public pharmacy. Thus, cooperation and networking between the different institutions in academia and industry and the different fields of pharmaceutical sciences is being promoted.

Last but not least, the SPhSD represents an ideal platform to meet young engineers and scientists, who may be recruited for a position in the academia, hospital, industry, public health administration or public pharmacy.

## Organizing Committee:

**Prof. Rudolf Brenneisen, PhD, SAPhS**  
[info@saphw.ch](mailto:info@saphw.ch)

**Prof. Matthias Hamburger, PhD, SAPhS**  
[matthias.hamburger@unibas.ch](mailto:matthias.hamburger@unibas.ch)

# Program

**10:00 – 10:15**

## **Welcome Addresses**

- Ursula von Mandach, Prof., PhD  
Co-President SAPHs
- Christian Leumann, Prof., PhD  
Rector University of Bern
- Rudolf Brenneisen, Prof., PhD  
Secretary General SAPHs

**10:15 – 11:30**

## **Morning Session**

Chair: Verena Schröder, Prof., PhD,  
Co-President SAPHs, University of Bern

**10:15 – 10:45**

## **Keynote Lecture: Pfizer Research Prize 2022**

Stephanie Ganal-Vonarburg, Prof., PhD  
Department for BioMedical Research DBMR  
University of Bern:

«Gut Bacteria Can Program Antibodies»

**10:45 – 11:15**

## **Lecture 2:**

Daniel Ricklin, Prof., PhD  
Department of Pharmaceutical Sciences,  
University of Basel:

«Mission Possible: Therapeutic Immune  
Modulation by Targeting the Human Complement  
System»

**11:15 – 11:30 h**

## **Discussion Lectures 1 and 2**

**11:45 – 14:00**

## **Lunch Break and Poster Session**

# Program (cont.)

**14:00 – 16:15**

## **Afternoon Session**

Chair: Klaus Eyer, Prof., Dr. sci., ETHZ

**14:00 – 15:00**

## **Short Oral Presentations – Selected Abstracts**

14:00 – 14:15

**Nina L. Wittwer, Univ. of Basel, Univ. Hospital Basel**  
«Utilization of pharmacogenetic drugs in Switzerland» (IV-3)

14:15 – 14:30

**Kevin Portmann, ETH Zurich**  
«Unravelling pro-inflammatory dynamics of individual cytokine-secreting cells through deep phenotypic single-cell analysis» (VI-2)

14:30 – 14:45

**George Ramzy, Univ. of Geneva**  
«Patient-derived platform to leverage personalized treatment for colorectal carcinoma» (V-9)

14:45 – 15:00

**Simone Aleandri, Univ. of Bern**  
«Lipidic based-gel with tunable release properties as a platform for local delivery of biotherapeutics» (II-2)

**15:00 – 15:30**

## **Lecture 3: Theodor-Kocher Prize 2021**

**Alexander Eggel, Prof., PhD**  
University Hospital Inselspital Bern and Department for BioMedical Research DBMR, University of Bern:

«Development and Implementation of a New Approach to Diagnose and Monitor Allergic Diseases»

**15:30 – 16:00**

## **Lecture 4:**

**Werner J. Pichler, Prof. em., MD**  
University of Bern and ADR-AC GmbH:

«Pharmacology Meets Immunology: the p-i Concept»

**16:00 – 16:15 h**

## **Discussion Lectures 3 and 4**

# Program (cont.)

**16:15 – 16:30**

**Coffee break**

**16:30 – 17:00**

**Award Ceremony**

SAPhS Fellow(s) 2022

Poster Prizes

Winner swissYPG Flash Talk  
(Pre-SPhSD event on 18 August 2022  
at the House of the University of Bern)

**17:00 – 17:15**

**Closing Remarks**

**17:15 – ca. 18:30**

**Apéro**

# Sponsors

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**AKB-Stiftung zur Förderung des  
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Sponsoring 1st poster prize and  
lecture of Prof. Alexander Eggel



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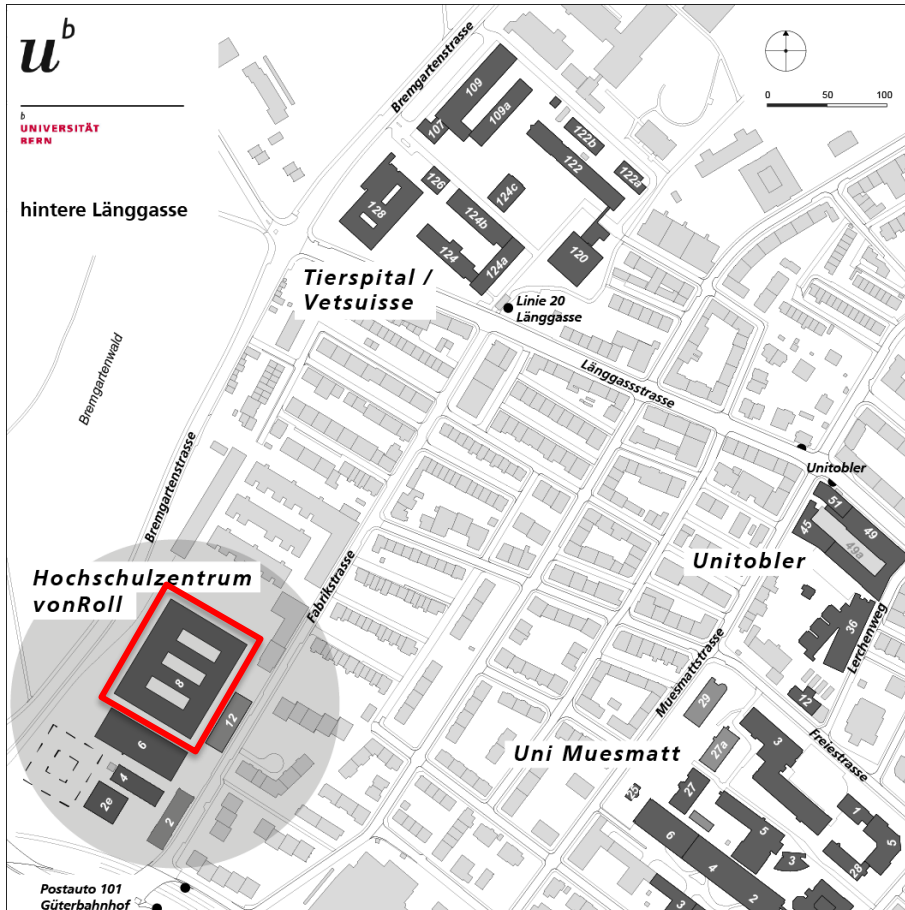


**Pharmazeutische Gesellschaft Zürich**  
Bronze Sponsor  
Sponsoring 3<sup>rd</sup> poster prize



# Location and Directions

- «Hochschulzentrum von Roll», Fabrikstrasse 6, 3012 Bern  
Building 8, HS 003



## Public transportation:

SBB, Hauptbahnhof Bern → Postautostation → Bus 101, direction «Hinterkappelen» → exit «Güterbahnhof» or Bus 20, direction «Länggasse» → exit «Länggasse» → Fabrikstrasse → HSZ von Roll → Hörraumgebäude 6.

## Car:

A12 → exit «Forsthaus» → Parking «Inselspital»; very limited parking space on site.

## I. PHARMACEUTICAL BIOLOGY / PHYTOPHARMACOLOGY

- I-1 **M. Keller:** Aryltetralin lignans from *Hyptis brachiata* inhibiting human T-cell proliferation
- I-2 **L. Höing:** Biosynthesis of dihydroxytropolone in *Streptomyces sp.*
- I-3 **O. Sevik Kilicaslan:** Antiprotozoal activity of compounds isolated from *Psychotria leiocarpa*

## II. PHARMACEUTICAL TECHNOLOGY

- II-1 **Y. Grether:** Correlating functionality and physico-chemical properties of polysorbates for biopharmaceutical preparations
- II-2 **S. Aleandri:** Lipidic based-gel with tunable release properties as a platform for local delivery of biotherapeutics
- II-3 **S. Teworte:** Vaginal administration of repurposed drugs for endometriosis treatment
- II-4 **M. Carone:** Composite pirfenidone gel for the local treatment of fibrosis in multiple organs
- II-5 **J. Kost:** Hydroxyapatite microcapsules as multifunctional drug delivery devices
- II-6 **S. Matorri:** Stability studies of commercial corticosteroid suspensions
- II-7 **B. Rossier:** Formulation and delivery strategies for sustained topical drug delivery to treat nail disorders
- II-8 **C. Schelker:** Screening and optimization of Tubacin-loaded liposomes using Plackett-Burmann design
- II-9 **S.C. Geisshüsler:** Cyclodextrin-based microneedle patch for nanoparticulate vaccine delivery
- II-10 **I. Amara:** Particles in biopharmaceutical formulations: mechanistic study developing tools for particle characterization in close container
- II-11 **A. Cosseron:** Development of a gastro-resistant formulation for a complex mixture of microorganisms
- II-12 **A. Rakotonirina:** Development of a novel microencapsulation formulation for fecal microbiota transplantation
- II-13 **I. Skorup:** Tablet formulation of soy polyenylphosphatidylcholines (PPCs) for liver fibrosis therapy
- II-14 **S. Waldner:** Application of deep learning to the analysis of time-resolved (4D) micro-computed tomography data
- II-15 **J. Casper:** Evaluation of lipid nanoparticle formulations for efficient DNA delivery to the liver

## III. PHARMACOEPIDEMIOLOGY

- III-1 **C.A. Marxer:** Recording of chronic diseases and adverse obstetric outcomes during hospitalizations for a delivery in the National Swiss Hospital Medical Statistics Dataset between 2012 and 2018: An observational cross-sectional study
- III-2 **S. Gut:** The use of metamizole and other non-opioid analgesic and characterization of its users in Switzerland, a descriptive study
- III-3 **K.T. Jungo:** What are the factors associated with the willingness to have medications deprescribed in older patients with multiple chronic conditions and polypharmacy?



# Posters (cont.)

## IV. CLINICAL PHARMACY / CLINICAL PHARMACOLOGY

- IV-1 C. Meyer-Masseti:** Diabetes management and deprescribing in specialized palliative care
- IV-2 C. Meyer-Masseti:** Prescription trends and deprescribing in outpatient specialized palliative care
- IV-3 N.L. Wittwer:** Utilization of pharmacogenetic drugs in Switzerland
- IV-4 N. Aebi:** The risk of acute infection in association with newly diagnosed depression: a cohort study
- IV-5 T. Zappalà:** Association of the Swissmedic safety alert regarding skin cancer and the use of hydrochlorothiazide and other antihypertensives in Switzerland
- IV-6 C.R. Meier:** Diabetes mellitus, antidiabetic use and the risk of treated depression in the UK
- IV-7 V.V. Huwiler:** Prolonged isolated soluble dietary fibre supplementation in overweight and obese patients: A systematic review with meta-analysis of randomised controlled trials
- IV-8 V.V. Huwiler:** Dietary fiber intake and its association with ultra-processed food consumption in the general population of Switzerland
- IV-9 M.G. Ceppi:** Characteristics of patients with incident delirium during inpatient rehabilitation: a descriptive study
- IV-10 C.K. Stäubli:** Pharmacist-led pharmacogenetic testing and counselling: A study design addressing depression therapy in psychiatric practice
- IV-11 N. Schönenberger:** Development of a pocket card to guide medication counseling at hospital discharge
- IV-12 N. Schönenberger:** Identification of risk factors for drug-related readmissions – a scoping literature review
- IV-13 N. Näf:** Heart rate variability features in patients with postbariatric hypoglycaemia after Roux-en-Y gastric bypass measured by a wearable device

## V. MOLECULAR PHARMACOLOGY / MOLECULAR MEDICINE

- V-1 L. Fernandez:** New tools to study HDAC6 activity in multiple myeloma
- V-2 W. Spaleniak:** Right on time to defeat cancer: investigating the connection between the circadian rhythm and lung tumorigenesis
- V-3 R. Rincón:** HDAC6 ZnF-UBP domain inhibitors: a strategy to overcome multiple myeloma resistance?
- V-4 A. Ferro:** Pan-HDAC/PI hybrids: a new challenge for resistance in multiple myeloma
- V-5 C. Sommer-Plüss:** Insight into the interaction profiles and functional modulation of complement-related integrin receptors using an integrated screening platform
- V-6 E. Umnyakova:** Molecular insight into the target interaction profile of the factor H-binding peptide 5C6
- V-7 A. Blagojevic:** Structure-activity assessment of the leech-derived complement inhibitor BD001
- V-8 S. Vogt:** An exchange with implications: Towards new derivatives of the complement inhibitor compstatin with improved species specificity profiles
- V-9 G. Ramzy:** Patient-derived platform to leverage personalized treatment for colorectal carcinoma
- V-10 R. Hevey:** The development of collectin-11 antagonists to limit ischemia-reperfusion injury

## Posters (cont.)

**V-11 L. Iacobucci:** Synergistic low-dose drug combination is effective against various cancer cell types

### **VI. ANALYTICS**

**VI-1 R.H. Wallimann:** High-sensitivity ICP-MS as tool for the *in vitro* and *in vivo* characterization of future radiometal-based theranostics

**VI-2 K. Portmann:** Unravelling pro-inflammatory dynamics of individual cytokine-secreting cells through deep phenotypic single-cell analysis

**VI-3 J. Raeber:** Terpenomics for authenticity control of natural products using mass spectrometry and chemometrics

**VI-4 V. Erckes:** Characterization of constrained peptides by CID-MS/MS fragment pattern analysis

### **VII. PHARMACOLOGY / BIOPHARMACY**

**VII-1 M. Rysz:** Erlotinib distribution in *rSlco2b1*<sup>-/-</sup> vs *hSLCO2B1*<sup>+/+</sup> rats – preliminary data

**VII-2 V. Doggwiler:** *In vitro* and *in vivo* testing of a tablet formulation with double control mechanism for colonic drug delivery

**VII-3 A.M. Schäfer:** St. John's wort has an unexpected impact on CYP3A metabolism in rats

**VII-4 V. Taggi:** Effects of St. John's wort formulations on P-glycoprotein expression in rats

**VII-5 K. Brecht Brüngger:** Investigation of hematopoietic efflux transport of coproporphyrins

**VII-6 J. Kinzi:** Differences in hepatic disposition of atorvastatin in SLCO2B1-knockout and humanized rat model

**VII-7 M. Jamshidi:** Lung-on-a-chip platform for inhalation drug screening

**VII-8 S.K. Lustenberger:** Evaluation of tau P301L mice for legumain PET radiotracer development in Alzheimer's disease

**VII-9 D. Klein Cerrejon:** Boosting buccal absorption of biopharmaceuticals with a bioinspired suction device