

Annual Swiss  
**Physiology meeting**  
**2020**

**MEETING**  
**BOOKLET**

[www.meetings.ls2.ch/physiology2020](http://www.meetings.ls2.ch/physiology2020)

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10 YEARS  
in Switzerland  
2010 – 2020





# Meeting booklet of the Swiss Physiology Meeting 2020

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10 YEARS  
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*\*Only in the booklet for participants*

# 1. Program – day 1 (31<sup>st</sup> August, 2020)

09:00–09:20      **Registration / Connection to zoom**

09:20 – 09:30      **Welcome and Introductory remarks**  
Prof. Zhihong Yang (University of Fribourg. President of the [LS2 Physiology Section](#))

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09:30 – 10:15      **Keynote lecture I:**  
**Prof. Wanda Kukulski** (Institute of Biochemistry and Molecular Medicine. University of Bern)  
*“The architecture of organelle contact sites involved in lipid transfer”*



Introduction: Prof. Christine Peinelt (University of Bern. Vice-president of the [LS2 Physiology Section](#) )

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10:15 – 10:40      **Young Investigator Award – PhD students**  
**Poster Competition / flash talks. 3 finalists**

- **Tomaz Martini** (University of Fribourg)  
*“Knockout of Per2 from glial cells of the nucleus accumbens produces a manic mouse”*
- **Yustina Maria Puspitasari** (University of Zurich)  
*“Infliximab rescues the effect of aging on stroke outcome: targeting inflamm-aging mediators”*
- **Koay Teng Wei** (University of Fribourg)  
*“Unraveling the cryptic transcriptional landscape of the androglobin gene”*

10:40 – 11:00

Break

11:00 – 11:25

**Young Investigator Award – Postdocs  
Poster Competition / flash talks. 3 finalists**

- **Dr. Ji Huag** (University of Fribourg)  
*“Arginase-II mediates age-related renal inflammation and fibrosis”*
- **Dr. Gergely Karsai** (University Hospital Zurich)  
*“Do sphingolipid double bonds matter?”*
- **Tianliang Sun** (Novartis Pharma AG)  
*“Liver Stem Cells - Fact or Fancy”*

Chair of both poster competition sessions: Prof. Thomas A. Lutz (University of Zurich)

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11:25 – 11:35

**Sponsored Talk: Dr. Britta Gerlach** ([OLS-OMNI Life Science GmbH](#))

*“Seeing is believing. Smart solutions for your cell-based research”*



Introduction: Prof. Christine Peinelt (University of Bern)

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11:35 – 12:35

**e-Posters - Flash talk format**

- **Dr. Alexander Akhmedov** (University of Zurich)  
*“TNF $\alpha$  induces Endothelial Dysfunction in Experimental and Clinical Rheumatoid Arthritis via LOX-1 and Arginase 2 Activation: Reversal by Monoclonal Anti-TNF $\alpha$  Antibody Infliximab”*
- **Dr. Rajesh Bhardwaj** (University of Bern)  
*“Orai calcium channel activation mechanisms”*

- **Jessica Brunetti** (University of Geneva)  
*“Physiological role of Store-Operated Calcium Entry (SOCE) during ex vivo maturation of human skeletal muscle fiber”*
- **Dr. Amado Carreras** (University of Geneva)  
*“ER-stress sensor IRE1 modulates calcium signalling at ER/PM contact sites”*
- **Christopher Henry** (University of Geneva)  
*“Regulation of calcium fluxes at endoplasmic reticulum - plasma membrane contact sites”*
- **Xiujie Liang** (University of Fribourg)  
*“Hypoxia enhances arginase-II expression in renal epithelial cells: implications for age-associated fibrosis”*
- **Dr. Darko Maric** (University of Fribourg)  
*“Novel Epo regulating transcription factors”*
- **Axel Tollance** (University of Geneva)  
*“Determination of the quiescence and activation mechanisms of human skeletal muscle reserve cells”*

Chair: Prof. David Hoogewijs (University of Fribourg)

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12:35 – 12:40      **Closing remarks of the first day and introduction to the LS2 Physiology Section Assembly for LS<sup>2</sup> members of the section**

12:40 – 13:10      **LS<sup>2</sup> Physiology Section Meeting + closing**

The assembly is open to all LS2 members part of the LS2 Physiology section



Conducted by Prof. Zhihong Yang (University of Fribourg. President of the [LS2 Physiology Section](#))

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## 2. Program – day 2 (1<sup>st</sup> September, 2020)

09:05 – 09:25      **Registration / Connection to zoom**

09:25 – 09:30      **Welcome and Introductory remarks**  
**Prof. Zhihong Yang** (University of Fribourg. President of the [LS2 Physiology Section](#))

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09:30 – 10:15      **Keynote lecture I:**  
**Prof. Michael Scharl** (University Hospital Zürich)  
*“From cells and mice to humans: translating today’s basic knowledge about protein tyrosine phosphatases into clinical approaches of tomorrow for treatment of intestinal inflammation and cancer”*

Introduction: Prof. Zhihong Yang (University of Fribourg. President of the [LS2 Physiology Section](#))

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10:15 – 11:15      **Young Investigator Award – PhD students**  
**Oral Competition / flash talks. 4 finalists**

- **Miguel Correia** (University of Fribourg)  
*“Absence of androglobin leads to incorrect septin localization and male infertility”*
- **Shopie Luise Dahl** (University of Zurich)  
*“Cell fate of renal erythropoietin-producing cells in health and disease”*
- **Tahir Idris** (University of Geneva)  
*“CFTR channelopathy and signaling pathways in differentiation towards a functional airway epithelium”*
- **Olga Rusiecka** (University of Geneva)  
*“Deletion of pannexin1 improves the outcome of cardiac ischemia/reperfusion”*

Chair: Prof. Nicolas Demaurex (University of Geneva)

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11:15 – 11:25

**Sponsored Talk: Dr. Gary Prescott** (Product Specialist – Europa  
[BioTek Instruments GmbH](#))

*“Cytation 7: using a powerful and unique combination of imaging tools to advance quantitative image-based applications”*



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Introduction: Prof. Zhihong Yang (University of Fribourg)

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11:25 – 11:35

**Break**

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11:35 – 12:35

**Young Investigator Award – Postdocs  
Oral Competition / flash talks. 4 finalists**

- **Dr. Elisa Araldi** (ETH Zurich)  
*“Peptide amidation in physiology and disease”*
- **Dr. Anna Keppner** (University of Fribourg)  
*“Genetic ablation of the newly identified androglobin leads to primary ciliary dyskinesia”*
- **Dr. Tatjana Kleele** (EPF Lausanne)  
*“Distinct molecular signatures of fission predict mitochondrial proliferation or degradation”*
- **Dr. Dulio Michele Potenza** (University of Fribourg)  
*“Arg-II deficiency protects against cardiac aging”*

Chair: Prof. Christine Peinelt (University of Bern)



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12:35 – 12:45

**e-Posters - Flash talk format**

- **Alejandro Osorio-Forero** (University of Lausanne)  
*"Role of the Locus Coeruleus in the mechanism of sleep fragility"*
- **Martina Spiljar** (University of Geneva)  
*"Systemic metabolic activation by cold exposure reprograms monocytes and attenuates neuroinflammation"*

Chair: Prof. Ernst Niggli (University of Bern)

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**12:45 – 13:00**

**Break**

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*12:45 – 13:00 Parallel YIA Jury session*

**13:00 – 13:10**

**Award Ceremony: YIA Research Prize 2020 of the "Stiftung für Physiologie"**



Conducted by Prof. Ernst Niggli (University of Bern)

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**13:10 – 13:15**

**Closing remarks from Prof. Zhihong Yang** (University of Fribourg. President of the LS2 Physiology Section)

### 3. Keynote Lectures

**Prof. Dr. Wanda Kukulski**

*University of Bern (CH)*

#### **«The architecture of organelle contact sites involved in lipid transfer»**

The cellular distribution of lipid molecules depends on membrane contact sites between organelles. Specifically, localised proteins mediate contact formation and transfer of lipids. I will present my group's work aiming to understand how the organisation and structure of organelle contact sites is linked to lipid transfer function. To this end, we combine correlative light and electron microscopy, cryo-electron tomography of vitreous cells, genetics, biochemistry and live cell imaging, in budding yeast and human cells.



*Talk sponsored by the NCCR TransCure Gender Equality Program*



**Prof. Dr. med. Michael Scharl**  
*University Hospital Zurich (CH)*

**«From cells, mice and to humans: translating today's basic knowledge about protein tyrosine phosphatases into clinical approaches of tomorrow for treatment of intestinal inflammation and cancer»**

Protein tyrosine phosphatases, e.g. PTPN2 or PTPN22, have been associated with many chronic inflammatory and autoimmune diseases. We have identified their role in the pathophysiology of chronic intestinal inflammation and colorectal carcinoma using cell and mouse models of inflammation and cancer as well as by using a large number of human biosamples. Hereby, we not only unraveled the functional relevance of PTPN2 and PTPN22 for maintaining intestinal physiology and homeostasis, but also identified novel therapeutic approaches for the treatment of intestinal inflammation and cancer that will now face their translation towards the clinical setting



## **4. Abstracts** *(In alphabetical order)*

*Only for participants*

## 5. Sponsored talks

**Dr. Britta Gerlach**

[OLS-OMNI Life Sciences GmbH](#)



**Seeing is believing. Smart solutions for your cell-based research**

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**Dr. Gary Prescott**

[BioTek Instruments GmbH](#)



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**Cytation 7: using a powerful and unique combination of imaging tools to advance quantitative image-based applications**

We recently release of an exciting new addition to our imaging instrument family: Cytation 7 Cell Imaging Multi-Mode Reader! The Cytation 7 development project was initiated based on feedback from our customers wanted to be able to image ELISpot assays, find Regions of Interest (ROIs), automate slide scanning, and more. The Cytation 7 offers an upright microscope for reflected and transmitted light microscopy, plus an inverted microscope with a wide field of view (WFOV) camera to take imaging capabilities to the next level!

## 6. Organizers

### Life Sciences Switzerland (LS<sup>2</sup>)

**Adela Calvente & Jessica Plucain** (Scientific Officers)

**Jacqueline Oberholzer** (Executive Secretary)

*...and our freelance support:*

**Dagmar Bocakova** (design, [bocakova@gmail.com](mailto:bocakova@gmail.com))

**Dominique Ritter** (administration)

**Michael Vögeli** (IT)

### LS<sup>2</sup> Section Physiology

*Board members:*

**Zhihong Yang** (President, UNIFR)

**Christine Peinelt** (Vice president, UNIBE)

**Nicolas Demaurex** (Past President, UNIGE)

**Marc Chanson** (UNIGE)

**Maud Frieden** (UNIGE)

**Thomas Lutz** (UZH)

**David Hoogewijs** (UNIFR)



## 7. Sponsors

We're very grateful for the generous support of:

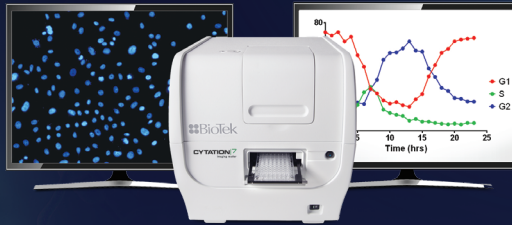


**Thank you all for your participation!**

**Feedback to:**  
[info@ls2.ch](mailto:info@ls2.ch)



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- Colony counting
- Label-free cell counting
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- Calcium flux
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- Cell proliferation
- Cell migration & invasion
- Cell viability & toxicity
- Confluence
- Fast kinetics
- Genotoxicity
- Immunofluorescence
- Microbiology
- Phenotypic assays
- Stem cell differentiation
- Transfection efficiency
- Slide scanning
- ELISpot imaging
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- Phagocytosis
- Signal transduction
- Translocation

[www.biotek.com/cytation](http://www.biotek.com/cytation)



# Every Cell Matters!

## A busy Bio-Lab needs an efficient Cell Counter

### Logos Biosystems' new LUNA-FX7™ Automated Cell Counter



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- Encrypted electronic records

**LUNA-FX7™**  
Automated Cell Counter

	NEW				
	LUNA™ 1-Channel Slides	LUNA™ 8-Channel Slides	LUNA™ 3-Channel Slides	LUNA™ Cell Counting Slides / PhotonSlides™	LUNA™ Reusable Slides
Compatible slides					
Sample throughput	1 sample	Up to 8 samples	Up to 3 samples	Up to 2 samples	1 sample
Sample loading volume	50 µL	10 µL / chamber	10 µL / chamber	10 µL / chamber	10 µL
Maximum analysis volume	5 µL	0.5 µL / chamber	1.3 µL / chamber	1.3 µL / chamber	1.3 µL

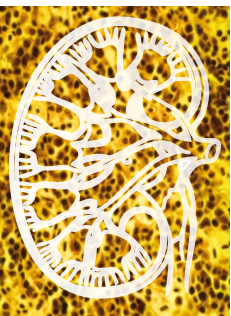
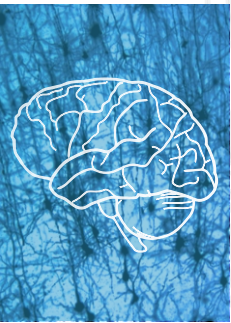
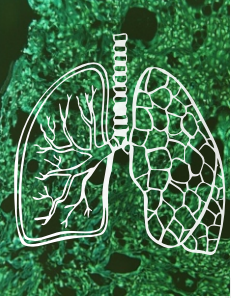


Space for notes:





# Upcoming with LS<sup>2</sup>



18-19 February 2021  
Campus Uni Mail, University of Geneva

## LS<sup>2</sup> Annual Meeting 2021

Mechanisms in health,  
disease and ageing

### PLENARY SPEAKERS

Tony Wyss-Coray (Stanford University, US)

Dario Valenzano (Max Planck Institute for  
Biology of Ageing, Cologne, DE)

Katrien De Bock (ETH Zurich, CH)