Program overview. LS^2 Annual Meeting 2026

University of Zurich, Irchel Campus, Zurich, Switzerland

Program overview

YOUNG SCIENTISTS' SATELLITE MEETING (YSS)

Tuesday, February 10, 2026. Lichthof area, room G60

12:00 – 12:30 **Registration & Welcome Coffee for Young Scientists' Satellite**

(Registration will remain open until 16:00)

(Speakers and chairs should upload their presentations)

12:30 – 12:35 **Welcome Address**

Tatjana Kleele (Chair of LS^2 AM2026, ETH Zurich)
Alexis Jourdain (Chair of LS^2 AM2026, University of Lausanne)
Simon Sprecher (LS^2 President, University of Fribourg)

12:35 – 12:40 **Introduction from YSSM Chairs**

Charlotte Sutter (University of Zurich)
Meghna Swayambhu (University of Zurich)
Laura Wessling (Lausanne University Hospital)

12:40 – 13:00 **YSS Keynote Lecture I**

Lara Urban (University of Zurich)

"Nanopore technology and AI for rapid pathogen surveillance "

Genomics has become an integral part of One Health surveillance to identify pathogen and resistance outbreak clusters and transmission routes, and whole-genome sequencing of cultured pathogens is now a recommended standard by the European Centre for Disease Prevention and Control and the European Food Safety Authority. I will show how recent improvements in genomic sequencing by real-time and accessible nanopore sequencing technology now hold the promise of implementing rapid genomic sequencing at the point of care and potentially globally due to the low upfront investment costs. I will explore how rapid and holistic metagenomic surveillance by nanopore sequencing and AI-based analysis can address challenges associated with metagenomics-based surveillance in terms of sensitivity, viability, and associations of resistance genes to their pathogenic hosts.

13:05 – 13:25 **YSS Keynote Lecture II**

Laurence Romy (Biopôle SA & Lormina.ch)

"Long and short at once, the beauty of the journey: Lessons from a path of doubt, discovery, and courage"

It was easy to follow a predictable academic path: high school with a scientific focus, then a Bachelor's, a Master's, and finally a PhD. But then what? For me, it has always been important to take ownership of my own development and not wait for others to shape my career trajectory. This mindset guided me before, during, and after my PhD research. Throughout this keynote, I hope to share how being proactive and taking pride in every step of both my personal and professional development has shaped my life. My wish is that it will resonate with you and perhaps inspire you to reflect on your own path.

13:25 – 13:55 **Coffee Break**

13:55 – 15:15 **Scientific Symposium**

13:55 – 14:00 **Introduction** from chairs

Speakers selected from abstracts

14:00 – 14:12 **Marta Mazurkiewicz** (University of Zurich)
"Identification of oligodendrocyte transcriptional signatures in Western diet-induced pain"

14:12 – 14:24 **Annemarie Ianos** (Baruch College, City University of New York)
"Nanoplastics penetration across the blood-brain barrier"

14:24 – 14:36 **Elena Barletta** (Swiss Institute of Bioinformatics)
"Proteomics Profiling Reveals Sex-Based Differences and Hormonal Modulation of Recovery in Elite Female Athletes Following Intense Exercise"

14:36 – 14:48 **Jakub Wenz (Hruby)** (EPF Lausanne)
"Microsecond Time-Resolved Cryo-EM Based on Jet Vitrification"

14:48 – 15:00 **Marta Balkota** (University of Geneva)
"Brain Mitochondrial Glutamate Metabolism Coordinates Body Energy Balance and Age-Related Behavioral Changes"

15:00 – 15:12 **Justine Leclerc** (University of Zurich)
"conformeR: Conformalized differential expression analysis of multi-condition single-cell data"

15:12 – 15:15 Closing remarks

15:15 – 15:45 **Coffee Break**

15:45 – 16:00 **Introducing: LS2-supported Student Prize Winners**

Victoria Jaël Moser & Mara Robinson (Sonderpreis)
Ruben Kastelic, Raphael Burgener, Lukas Müller, Dhruv Sharma (Biologie Olympiade)
Joshua Tran (Geneva Chemistry & Biochemistry Days)

16:00 – 16:10 **FEBS initiatives and fellowship opportunities for young scientists**

16:10 – 17:55 **Workshop/Panel Discussion: "Speaking Science, thinking AI"**

Kristina Thumfart (IACULIS GmbH), **Verena Waller** (Roland Berger) and **Darren Ray Kelly** (ETH Zurich)

In today's scientific landscape, artificial intelligence is no longer a futuristic concept—it is an integral part of research, analysis, and communication. While AI offers powerful tools and efficiencies, its overuse or misuse can lead to errors in data interpretation and scientific outcomes. At the same time, AI opens new avenues for communicating complex science to broader audiences, particularly when scientists struggle to translate their work beyond the lab. This workshop explores critical questions: how much should we rely on AI—not just for the heavy lifting of data processing, but its use critical aspects of science communication. The workshop is designed to facilitate discussions between young AI users and experienced scientists on use of AI for data processing and science communication. Additionally, we discuss the overarching question of where must the human voice remain irreplaceable?

17:55 – 18:00 **Closing Remarks**

18:00 – 19:00 **YSS Apéro**

Program overview
MAIN CONFERENCE

DAY ONE
Wednesday, February 11, 2026

08:15 – 09:00 **Registration & Welcome Coffee**
Lichthof area
(Registration will remain open until 16:45)
(Speakers and chairs of the morning sessions should upload their presentations)

09:00 – 09:10 **Welcome Address**
Lecture hall G45
Tatjana Kleele (Chair of LS^2 AM2026, ETH Zurich)
Alexis Jourdain (Chair of LS^2 AM2026, University of Lausanne)
Simon Sprecher (LS^2 President, University of Fribourg)

09:10 – 09:45 **The EMBO Keynote Lecture**
Lecture hall G45
Sarah-Maria Fendt (VIB KU Leuven, BE)

"Metabolic rewiring driving metastasis formation"

Metastasis formation is the leading cause of death in cancer patients. We find that metabolic rewiring is a liability of metastasizing cancer cells. For example, we discovered that extracellular remodeling of the metastatic niche, a process essential to metastasis formation, requires a transcriptional-independent regulation via the metabolites. Moreover, we provide knowledge on intratumor heterogeneity of metabolism and its role in pre-metastatic niche and metastasis formation. Thus, we study the metabolism of metastasizing cancer cells with the goal to define novel therapeutic strategies.

09:45 – 10:15 **Lelio Orci Award Lecture**
Lecture hall G45
Pierre Gönczy (EPF Lausanne)
Introductory words by **Pierre Cosson** (University of Geneva)

"Mechanisms of centriole assembly: addressing a long-standing question in cell biology"

Understanding the organizing principles driving assembly of cellular organelles is an important pursuit in biology. The centriole is an evolutionarily conserved microtubule-based organelle essential for the formation of flagella, cilia and centrosomes. The centriole exhibits a striking 9-fold radially symmetrical arrangement of microtubules organized around a likewise symmetrical cartwheel. I will discuss published and ongoing work aimed at deciphering the mechanisms governing centriole assembly across systems.

10:15 – 10:45 **Coffee Break & Industry Exhibition**

10:45 – 12:30 **Special Plenary Session: PIs of Tomorrow (PIOT) - The Future of Swiss Research**
Lecture hall G45

Chairs:
Ana Ricardo da Costa Xavier (University of Basel)
Carina Osterhof (University of Fribourg)
Manon Guivier (University of Fribourg)
Monika Gjorgjieva (University of Geneva)

Finalists:
Theodora Constantin (University of Basel)
"Unlocking the full potential of PI3Kα inhibitors for cancer therapy"

Juan Cruz Landoni (EPF Lausanne)
"Charting the spatiotemporal coordination of mitochondrial metabolism in development, disease, and aging"

Olimpia Bompadre (EPF Lausanne)
"Multi-Scale Dissection of Heterochromatin Regulation in Cancer Initiation"

Alaz Ozcan (University of Zurich)
"Neutrophils Beyond the Battle: Architects of Defense"

12:30 – 13:30 **Lunch Break & Industry Exhibition**
(Catering for industry representatives will be open from 12:00)
(Speakers and chairs of the afternoon sessions should load their presentations)

13:30 – 14:30 **Poster Session I**
All posters exhibited - please remain near your poster!

13:30 – 15:00 **Feedback Session PIs of Tomorrow**
Y21-F-70
(For jury, chairs and finalists only)

14:30 – 16:15 **Parallel Symposia Session I**

14:30 – 16:15 **The Metabolic Code of Life: Energy and Cell Systems**
Room G60
Organized by LS^2 section Systems Biology. Chaired by **Thomas Michaels** (ETH Zurich)

14:30 – 14:35 **Welcome words** from chairs

Invited speaker
14:35 – 15:10 **Kristina Stapornwongkul** (IMBA, AT)
"Glycolytic activity instructs germ layer proportions through regulation of Nodal and Wnt signalling"

Speakers selected from abstracts
15:10 – 15:22 **Abigail Alexandre-Strefeler** (University of Lausanne)
"Uridine-sensitized screening identifies NUDT5 as a regulator of nucleotide synthesis"

15:22 – 15:34 **Sebastian Bors** (University of Basel)
"A comprehensive genome-scale map of transcription factor-mediated metabolic rewiring in lung cancer via CRISPR and high-throughput metabolomics"

15:34 – 15:46 **Peter Lenart** (University of Bern)
"Coordinated Scaling of Germline Growth Ensures Reproductive Timing Across Environments"

15:46 – 15:58 **Ryan Separovich** (ETH Zurich)
"Systematic phosphoproteomics of an analog-sensitive kinase library defines context-specific signalling networks"

15:58 – 16:10 **Michael Zogg** (University of Basel)
"Hexose-6-phosphate dehydrogenase drives metabolic reprogramming and tumorigenicity in MDA-MB-231 triple-negative breast cancer cells"

16:10 – 16:15 Closing remarks

14:30 – 16:15 Room G95

Advances in Chemical Biology and Drug Discovery

Organized by LS^2 Partner Society DMCCB. Chaired by **Sascha Hoogendoorn** (University of Geneva)

14:30 – 14:35 **Welcome words** from chair

Invited speakers

14:35 – 15:10 **Ben Schumann** (Dresden University of Technology, DE)
"Chemical precision tools to dissect protein glycosylation"

Speakers selected from abstracts

15:10 – 15:20 **Po-Han Chang** (EPF Lausanne)
"Exploring the regulation of microtubule detyrosination and polyglutamylation through semi-synthetic tubulin"

15:20 – 15:30 **Theodora Constantin** (University of Basel)
"Covalent Inactivation of PI3Kα: Novel Paradigm for Isoform-Resolved Pharmacology"

15:30 – 15:40 **Annemarie Ianos** (Baruch College, City University of New York)
"Microtubules in Breast Cancer: Exploring the α/β-Tubulin Toggle Switch and Its Implications in Human Breast Cancer"

15:40 – 15:50 **Kelvin Groot** (University of Zurich)
"Highly multiplexed imaging uncovers combinatorial perturbation effects of small molecule treatments"

15:50 – 16:00 **Ali Hallaj** (University of Lausanne)
"A non-disruptive compound to enhance cytosolic delivery of cell-penetrating peptides"

16:00 – 16:10 **Linda Wedemann** (EPF Lausanne)
"Species-specific diacylglycerol signaling – peeking behind the mask of lipid classes"

16:10 – 16:15 Closing remarks

14:30 – 15:20 Room G40

Mini-symposium: From Disorder to Function: The Evolving Landscape of IDPs and Condensates

Organized by LS^2 Section Biophysics. Chaired by **Beat Fierz** (EPF Lausanne) and **Stefanie Jonas** (ETH Zurich)

14:30 – 14:31 **Welcome words** from chairs

Invited speaker

14:31 – 14:56 **Marc-David Ruepp** (King's College London, UK)
"Dissecting the molecular determinants of FUS function"

14:56 – 15:01 *Industry speaker*
Valentina Millarte (Agilent Technologies AG)
"Take your real-time metabolic analysis to the next level. From 2D to 3D with the Seahorse XF FLEX analyzer"

Speakers selected from abstracts

15:01 – 15:10 **Benjamin Frühbauer** (ETH Zurich)
"Condensation of satellite DNA by the disordered protein D1 safeguards nuclear mechanostability"

15:10 – 15:19 **Izabela Smok** (ETH Zürich)
"A cross-linking mass spectrometry method for characterizing protein-RNA interactions in phase-separated systems"

15:19 – 15:20 Closing remarks

15:25 – 16:15 Room G40

Mini-symposium: Ion Channels and Membrane Transporters: At the Interfaces That Fuel Life

Organized by LS^2 Section ICMT. Chaired by **Cristina Manatschal** and **Elena Lehmann** (University of Zurich)

15:25 – 15:27 **Welcome words** from chairs

Invited speaker

15:27 – 15:52 **Francesca Giordano** (Institut de Biologie Intégrative de la Cellule (I2BC), FR)
"Regulation of lipid transport and storage at the three-way Mitochondria-Endoplasmic Reticulum-Lipid Droplet junction"

Speakers selected from abstracts

15:52 – 16:02 **Alexandre Bokhobza** (University of Bern)

"Optimizing MINFLUX Performance: A Pipeline for Achieving Single-Digit Nanometer Super-Resolution in Biological Samples"

16:02 – 16:12 **Marta Monguió-Tortajada** (University of Lausanne)
"Relevance of the SLC15A4/TASL complex for IRF5-mediated Th1 responses"

16:12 – 16:15 Closing remarks

16:15 – 16:45 **Coffee Break & Industry Exhibition**

16:45 – 17:20 **Keynote lecture I**
Lecture hall G45
Heidi McBride (McGill University, CA)

"Mapping new pathways of pyroptotic cell death"

Cell death is inhibited in cancers but increased in neurodegeneration, highlighting the importance of its regulation for human health. MAPL is an outer mitochondrial membrane SUMO ligase involved in cell death in both cancer and neurodegeneration *in vivo* , yet how MAPL controls the fate of this process remains unclear. Combining genome-wide functional genetic screening and cell biological approaches, we found that MAPL induces pyroptosis through an inflammatory pathway involving mitochondria and lysosomes. This discussion will detail the mechanisms by which MAPL and the mitochondria-to-lysosome pathway act at the nexus of immune signalling and cell death.

17:20 – 17:25 **Introducing: The Division of Business and Economic Development of the Kanton of Zurich & Innovation Zurich Initiative**

17:25 – 19:20 **Industry Exhibition**

17:45 – 19:20 **Apéro (sponsored by the Division of Business and Economic Development of the Kanton of Zurich)**

DAY TWO

Thursday, February 12, 2026

08:30 – 09:00 **Registration & Welcome Coffee**
(Registration will remain open until 16:10)
(Speakers and chairs of the morning sessions should load their presentations)

09:00 – 09:05 **Welcome Address**
Lecture hall G45
Tatjana Kleele (Chair of LS^2 AM2025, ETH Zurich)
Alexis Jourdain (Chair of LS^2 AM2025, University of Lausanne)
Simon Sprecher (LS^2 President, University of Fribourg)

09:05 – 09:40 **Keynote lecture II**
Lecture hall G45
Jennifer Lippincott-Schwartz (Howard Hughes Medical Institute, US)

"Looking under the hood of cells from micron to atomic scales"

Powerful new ways to image the internal structures and complex dynamics of cells are revolutionizing cell biology and bio-medical research. In my talk, I will focus on three emerging technologies capable of revealing new properties of cellular organization at scales ranging from nanometer to atomic resolution. Whole cell milling using Focused Ion Beam Electron Microscopy (FIB-SEM) was used to reconstruct the entire cell volume at 4-nm voxel resolution, revealing all membrane-bound organelles and their trafficking intermediates at isotropic resolution. Single particle tracking using Halo dyes revealed unexpected features of mRNA trafficking, including sites where secretory proteins are translated on ER and their regulation by lysosomes. Finally, High Resolution Template Matching (HRTM) of ribosome subunits in cryo-EM images of intact human cells afforded a look at ribosomes at different stages of peptide elongation at the atomic scale. Together, these new tools open-up a plethora of questions related to mechanisms of cell structure/function that can now be studied in intact cells at the nanometric/molecular level.

09:40 – 10:20 **Coffee Break & Industry Exhibition**

10:20 - 12:05 **Parallel Symposia Session II**

10:20 - 12:05 **Advances in Volumetric Microscopy: from Method Development to Biological Applications**
Room G60
Organized by LS^2 Intersection Microscopy. Chaired by **Oliver Biehlmaier, Ana Rita Faria** (University of Basel, Biozentrum, Imaging Core facility) & **Erica Montani** (ETH Zurich, D-BSSE Single Cell Facility)

10:20 - 10:25 **Welcome words** from chairs

Invited speaker

10:25 - 10:55 **Jan Huisken** (University of Göttingen, DE)
"Flamingo: A portable, modular platform for In Vivo imaging in diverse environments"

Industry speaker

10:55 - 11:00 **Judith Reddington** (Leica-Microsystems)
"Visualizing Life in 3D at High Speed with Innovative Light Sheet Microscopy"

11:00 - 11:05 **Stefan Wahl** (Area Sales Manager Zeiss Research Microscopy, Switzerland)
"One Snap. One Volume: Instant Volumetric High-Speed Imaging of Living Organisms"

Speakers selected from abstracts

11:05 - 11:17 **Nikolaus Ehrenfeuchter** (University of Basel)
"Catching up with acquisition: High-speed processing of full-brain volumes"

11:17 - 11:29 **Laura Batti** (Wyss Center for Bio and Neuro Engineering)
"Insights into whole tissue clearing and labelling protocols for various samples in a microcopy facility context"

11:29 - 11:41 **Ruth Hornbachner** (University of Zurich)
"Characterization of anterior-posterior symmetry-breaking dynamics in murine embryos using whole-mount multiplexing protein mapping"

11:41 - 11:53 **Nikita Vladimirov** (University of Zurich)
"The mesoSPIM initiative: facility-grade open-source lightsheet microscopes one can actually build"

11:53 - 12:05 Final panel discussion and closing remarks

10:20 - 12:05
Room G95

Advancing Cancer Therapeutics Through Patient-Derived Complex Models

Organized by LS^2 Partner Society SSEP. Chaired by **Georgia Konstantinidou** (University of Bern) & **Patrycja Nowak-Sliwinska** (University of Geneva)

10:20 - 10:25 **Welcome words** from chairs

Invited speaker

10:25 - 11:00 **Elisa Oricchio** (EPF Lausanne)
"Empower personalized medicine for cancer patients using tissue explants for drug screening"

Industry speaker

11:00 - 11:20 **Markus Koester, Menorca Chaturvedi** (opnMe.com by Boehringer Ingelheim)
"Decoding KRAS with opnMe: Insights from SOS1 inhibition and other collaborative research"

Speakers selected from abstracts

11:20 - 11:30 **Jakub Gubala** (University of Geneva)
"Leveraging Multi-Organ Toxicity Models for Drug Combination Therapy Safety"

11:30 - 11:40 **Gonçalo Outeiro-Pinho** (University of Bern)
"MRTX1133 resistant cells rely on EZH2 activity to sustain their aggressive traits and avoid cell death"

11:40 - 11:50 **Fiona Farnhammer** (University Children's Hospital Zurich)
"Single enzyme activity defines response to select folate-cycle targeting drugs in osteosarcoma"

11:50 - 12:00 **Evgeniya Save-Trofimenko** (University of Lausanne)
"Exploiting the Rab14-Dependent Cell-Penetrating Peptide Trafficking for Targeted Chlamydia Therapy"

12:00 - 12:05 Closing remarks

10:20 - 12:05
Room G40

Proteomics in the Era of Multi-Omics

Organized by LS^2 Section Proteomics. Chaired by **Paolo Nanni** (FGCZ, University/ETH Zurich) & **Loïc Dayon** (Nestlé Research, Lausanne)

10:20 - 10:21 **Welcome words** from chairs

Invited speakers

10:21 - 10:43 **Jana Seifert** (University of Hohenheim, DE)
"Using metaproteomics for livestock microbiome research"

10:43 - 11:05 **Rudolf Aebersold** (ETH Zurich)

"On the dependency of cellular states on the adaptable modular proteome"

11:05 - 11:15

Speaker selected from abstracts

Elena Barletta (Swiss Institute of Bioinformatics)

"Proteomics Profiling Reveals Sex-Based Differences and Hormonal Modulation of Recovery in Elite Female Athletes Following Intense Exercise"

11:15 - 11:35

Industry speaker

Claudia Martelli (Bruker AG)

"Scalable and multi-omics insights with PASEF, from single cells to tissues"

11:35 - 11:45

Speaker selected from abstracts

Tatjana Sajic (University Hospital Lausanne)

"Biomarker discovery through in-depth characterisation of the serum protein composition of infant victims of Abusive Head Trauma (AHT)"

11:45 - 12:05

Round table

J.Seifert/R. Aebersold/Torsten Müller

12:05 - 12:05

Closing remarks

12:05 – 13:05

Lunch Break & Industry Exhibition

(Catering for industry representatives will be open from 11:30)

(Speakers and chairs of the afternoon sessions should load their presentations)

12:05 – 13:05
Y22-F-68

Physiology Section Board Meeting

(Upon invitation only)

12:05 – 13:05
Y23-G-04

MCB Section Board Meeting

(Upon invitation only)

12:05 – 13:05
Room G95

SSEP Council Meeting

(Upon invitation only)

13:05 – 14:05

Poster Session II

All posters exhibited - please remain near your poster!

14:05 – 15:50

Parallel Symposia Session III

14:05 - 15:50
Room G60

Mitochondria: Fueling Cells in Life, Death, and Disease

Organized by LS^2 section MCB. Chaired by **Florent Waltz** (University of Basel) & **Nadia Mercader Huber** (University of Bern)

14:05 - 14:10

Welcome words from chairs

14:10 - 14:45

Invited speaker

Hauke Hillen (University Medical Center Göttingen, DE)

"Molecular basis of mitochondrial RNA metabolism"

14:45 - 14:55

Speakers selected from abstracts

Christian Zimmerli (EPF Lausanne)

"Structure and function of unknown-intermitochondrial zipper junctions"

14:55 - 15:05

Johannes Pilic (ETH Zurich)

"Mitochondrial membrane saturation regulates mitochondrial dynamics"

15:05 - 15:15

Rosalie Heilig (University of Glasgow)

"Mitochondrial ubiquitylation during cell death drives anti-tumorigenic pro-inflammatory signalling"

15:15 - 15:25

Marta Balkota (University of Geneva)

"Mitochondrial Glutamate Metabolism Coordinates Body Energy Balance and Age-Related Behavioral Changes"

15:25 - 15:35

Joan Blanco I Fernandez (University of Lausanne)

"Mitochondrial profiling reveals essential roles for mitochondrial DNA expression and membrane potential maintenance in IL-4/IL-13 macrophages"

15:35 - 15:45

Angela Ramos-Lobo (University of Geneva)

"Activating mutation of mitochondrial glutamate dehydrogenase in the mediobasal hypothalamus triggers seizures in mice"

15:45 - 15:50 Closing remarks

14:05 - 15:50 Room G40

Are we coming closer to understanding and treating neurodegenerative diseases?

Organized by Swiss Network for Dementia Research. Chaired by **Daniela Noain** (University Hospital of Zurich) & **Bogdan Draganski** (Inselspital & University of Bern)

14:05 - 14:10 **Welcome words** from chairs

Invited speakers

14:10 - 14:35 **Marc Busche** (University of Basel)
"Selective vulnerability of neural circuits in early Alzheimer's Disease"

14:35 - 15:00 **Britta Engelhardt** (University of Bern)
"How brain barriers ensure CNS homeostasis and immune privilege"

15:00 - 15:10 **Discussion**

15:10 - 15:15 **Introduction - Swiss Network for Dementia Research**

Speakers selected from abstracts

15:15 - 15:25 **Emanuele Calia** (University of Fribourg)
"Molecular, genetic and functional screening to identify modifiers of MCI"

15:25 - 15:35 **Violina Dorogan** (University of Lausanne)
"Unraveling the mechanisms of neuronal communication and disposal mediated by secretory autophagy"

15:35 - 15:45 **Simone Crivelli** (University of Lausanne)
"Overexpression of UCP4 in astrocytes induces fatty acid oxidation for mitochondria respiration fuelling"

15:45 - 15:50 Closing remarks

14:05 - 14:55 Room G95

Mini-symposium: Bioinformatics Driving the One Health Concept

Organized by LS^2 Intersection Bioinformatics. Chaired by **Katja Baerenfaller** (SIAF and University of Zurich) and **Claudia Lang** (University Hospital Zurich)

14:05 - 14:07 **Welcome words** from chair

Invited speaker

14:07 - 14:32 **Emma Hodcroft** (Swiss TPH & University of Basel)
"Pathoplexus: building a new kind of pathogen database"

Speakers selected from abstracts

14:32 - 14:43 **Carina Osterhof** (University of Fribourg)
"A phylogenetic ancient, chimeric globin links oxygen sensing and flagellar motility"

14:43 - 14:54 **Alexandros Taousanidis** (University of Bern)
"Decoding a Structural Paradox in GH1: How Novel Mutations Drive Growth Hormone Deficiency Beyond Receptor Binding"

14:54 - 14:55 Closing remarks

15:00 - 15:50 Room G95

Mini-symposium: Extracellular vesicles in Cardiovascular Therapeutics

Organized by LS^2 Intersection Cardiovascular Biology. Chaired by **Marie-Noelle Giraud** (University of Fribourg) and **Giovanni G. Camici** (University of Zurich)

15:00 - 15:02 **Welcome words** from chairs

Invited speaker

15:02- 15:27 **Philippe Menasché** (Hôpital Européen Georges Pompidou, FR)
"Extracellular vesicles for the treatment of heart failure: a translational experience"

Speakers selected from abstracts

15:27 - 15:35 **Oksana Iamshanova** (University of Fribourg)

"Bone Marrow–Derived Secretome Modulates Macrophage Polarization to Enhance Cardiac Repair"

15:35 - 15:43 **Nathalie Rosenblatt-Velin** (Lausanne University Hospital)
"Targeting Natriuretic Peptide Pathways to Modulate Heart and Aortic Remodeling"

15:43 - 15:51 **Soumaya Es Sarhdaoui** (University of Geneva)
"Role of S100A4 in Atherosclerosis Development: Focus on S100A4-expressing Cells"

15:51 - 15:51 Closing remarks

15:50 – 16:10 **Coffee Break & Industry Exhibition**

16:10 – 16:40 **Friedrich Miescher Award 2026 lecture**
Lecture hall G45
Omaya Dudin (University of Geneva)
Introductory words by **Prof. Daniel Legler** (Biotechnology Institute Thurgau at the University of Konstanz)

"Exploring multicellular developmental diversity at the root of animals & beyond"

All animals develop from a single-celled zygote and undergo complex morphogenetic processes to form multicellular organisms. These processes are regulated by intrinsic and extrinsic factors that drive key developmental events, such as symmetry breaking, cell division, and differentiation. Despite the remarkable conservation of these pathways across species, the evolutionary origins of these morphogenetic mechanisms remain unclear. A major challenge in addressing this question is the limited availability of microscopy and cell biological data from key protists that occupy pivotal phylogenetic positions in the eukaryotic tree, including those identified as the closest unicellular relatives of animals.In this talk, I will show how close animal relatives such as Ichthyosporeans display strikingly diverse developmental strategies, from coenocytic growth with cellularization to cleavage-based colony formation. These systems provide unique opportunities to probe how cells coordinate in space, establish polarity, and differentiate, posing critical questions about the evolutionary transition to multicellularity.Finally, I will outline how we aim to move beyond animal origins by implementing, optimizing, and developing Expansion Microscopy (ExM) to study a broader diversity of microbial eukaryotes. This approach allows us to uncover the diversity of cellular forms, cytoskeletal architectures, and life cycles across lineages, providing new perspectives on how distinct multicellular developmental programs emerge. Our long-term goal is to establish an Expansion Microscopy Atlas of Microbial Eukaryotes, creating a framework to identify general principles of multicellular transitions across eukaryotic life.

16:40 – 17:10 **Award Ceremony**
Lecture hall G45
Tatjana Kleele (Chair of LS^2 AM2025, ETH Zurich)
Alexis Jourdain (Chair of LS^2 AM2025, University of Lausanne)
Simon Sprecher (LS^2 President, University of Fribourg)

Honorary Membership 2026
Pls of Tomorrow: Jury and Public
2 YSS Best Talk Prizes
Best poster prizes (aligned to symposia):
The Metabolic Code of Life (Systems Biology)
From Disorder to Function (Biophysics)
Ion Channels and Membrane Transporters (ICMT)
Chemical Biology and Drug Discovery by Division of Medicinal Chemistry & Chemical Biology (DMCCB)
Advances in Volumetric Microscopy (Microscopy)
Experimental Pharmacology by SSEP
Proteomics in the Era of Multi-Omics (Proteomics)
Mitochondria: Fueling Cells in Life, Death, Disease (MCB)
Neurodegenerative Diseases by The Synapsis Foundation
Bioinformatics Driving the One Health Concept (Bioinformatics)
Extracellular Vehicles in Cardiovascular Therapeutics (Cardiovascular Biology)
Best Poster Design: Public prize
FEBS Letters Best Poster Prize
Exhibition quiz prizes

17:10 – 17:15 **Closing Remarks & Acknowledgements**
Lecture hall G45
Tatjana Kleele (Chair of LS^2 AM2025, ETH Zurich)
Alexis Jourdain (Chair of LS^2 AM2025, University of Lausanne)
Simon Sprecher (LS^2 President, University of Fribourg)