



Universität
Zürich UZH

LS² 
Life Sciences Switzerland

LS² Annual Meeting 2019

"Cell Biology from Tissue to Nucleus"

Meeting Booklet

14-15 February, University of Zurich, Campus Irchel



LS²- Life Sciences Switzerland
Design by Dagmar Bocakova - bocakova@gmail.com
2019

WELCOME ADDRESS

Dear colleagues and friends

It is with great pleasure that we invite you to the **LS² Annual Meeting 2019**, held on the **14th and 15th of February, 2019 at the Irchel Campus of the University of Zurich**. This is a special year, as it is the **50th anniversary of USGEB/LS²**, which we will celebrate with a Jubilee Apéro on Thursday 14th.

The LS² Annual Meeting brings together scientists from all nations and backgrounds to discuss a variety of Life Science subjects. The meeting this year focusses on the cell in health and disease, with plenary talks on different aspects of cell biology and a symposium on live cell imaging approaches.

You will be able to hear the latest, most exciting findings in several fields, from Molecular and Cellular Biosciences, Proteomics, Chemical Biology, Physiology, Pharmacology and more, presented by around **30 invited speakers** and **45 speakers selected from abstracts** in one of the seven scientific symposia and five plenary lectures.

Two novelties highlight the meeting this year:

The "PIs of Tomorrow" session, in which selected postdocs will present their research to a jury of professors, will be for the first time a plenary session. In addition, poster presenters will be selected to give flash talks in the symposia with the spirit to further promote young scientists.

Join us for the poster session with more than 130 posters, combined with a large industry exhibition and the Jubilee Apéro.

For the 2019 edition, six poster prizes will be awarded!

This year the topic of the public Science policy panel will be "Is merit (gender) biased? Advancement in academia". We have excellent invited speakers that will introduce the topic and stimulate an open discussion with the public.

As every year, we're also very much looking forward to the laureate talks of the winners of the Friedrich-Miescher Award and the Lelio Orci Award.

We are extremely grateful to all our sponsors and exhibitors of the 2019 edition (see page 8/9), who contributed to make this big event

possible, and cordially invite you to visit their latest advances & products at the booths in between the sessions. Please go and visit their booths and at the same time **take your chance to win big prizes in the new Exhibition Lottery (see pages 19-22)!**

We are looking forward to this diverse & exciting program and wish you a memorable time!

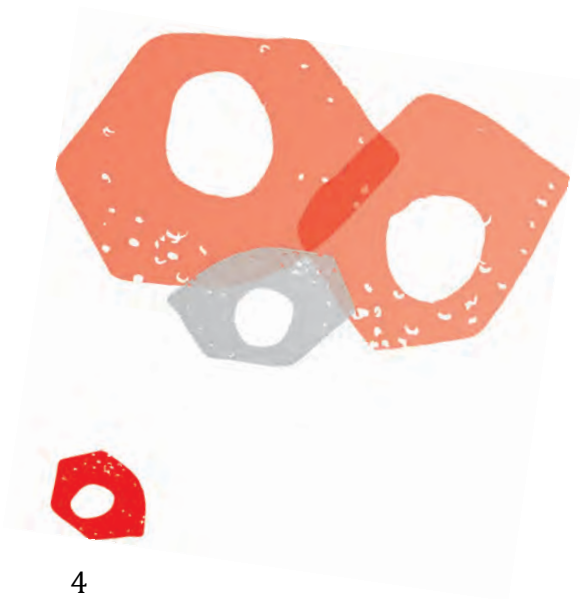


With kind regards

A handwritten signature in blue ink that reads "Monica Gotta".

Monica Gotta

(University of Geneva, Chairwoman of the LS² Annual Meeting 2019)







IJMS aims to provide a forum for scholarly research on a range of topics, including **biochemistry, molecular and cell biology and molecular biophysics**.

The scope of *IJMS* includes:

- Biochemistry
- Molecular Biology
- Molecular Pathology
- Bioactives and Nutraceuticals
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- Physical Chemistry and Chemical Physics
- Molecular Biophysics
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- Molecular Plant Sciences
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- Molecular Genetics and Genomics
- Molecular Pharmacology
- Molecular Informatics
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- Molecular Endocrinology and Metabolism

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Visit us at both number 5 at the
LS2 Annual Meeting 2019.

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ACCREDITATION FOR CONTINUOUS EDUCATION

A request has been submitted to accredit the entire LS² Annual Meeting 2019 for **days of continuous education in the field of animal experimentation**. Unfortunately, the request was still ongoing until the meeting booklet printing deadline (January 22, 2019). Participants will be informed about the outcome by e-mail after the meeting.

CONFERENCE WIFI ACCESS

Access <http://t.uzh.ch/coa>
& enter the Event-ID: **19LS2182944**

NURSING & PARENTING ROOM

If you require a calm area or room to nurse your child, please inquire at the registration desk for the key and directions.





THANK YOU

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INTEGRA





ORGANIZING COMMITTEE 2019

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Vikram Panse / University of Zurich

Darren Gilmour / University of Zurich

Anne Spang / University of Basel

Peter Meister / University of Bern

Suliana Manley / EPF Lausanne

LS² MANAGEMENT OFFICE

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OUR FREELANCE SUPPORT:

Dagmar Bocakova / Design

Dominique Ritter / Administration & accounting support

Michael Vögeli / IT infrastructure

LS² SECTIONS

Molecular and Cellular Biosciences (MCB) / Physiology / Proteomics /

Autophagy / Systems Biology / Intersection Cardiovascular Biology

LS² PARTNER SOCIETIES

Swiss Chemical Society (SCS), division DMCCB

Swiss Society for Anatomy, Histology and Embryology (SSAHE)

Swiss Society for Experimental Pharmacology (SSEP)

Swiss Laboratory Animal Science Association (SGV)

LS² IS A MEMBER OF THE SWISS ACADEMY OF SCIENCES

sc | nat 

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LS² 
Life Sciences Switzerland

LS² EUROPEAN AND INTERNATIONAL AFFILIATIONS



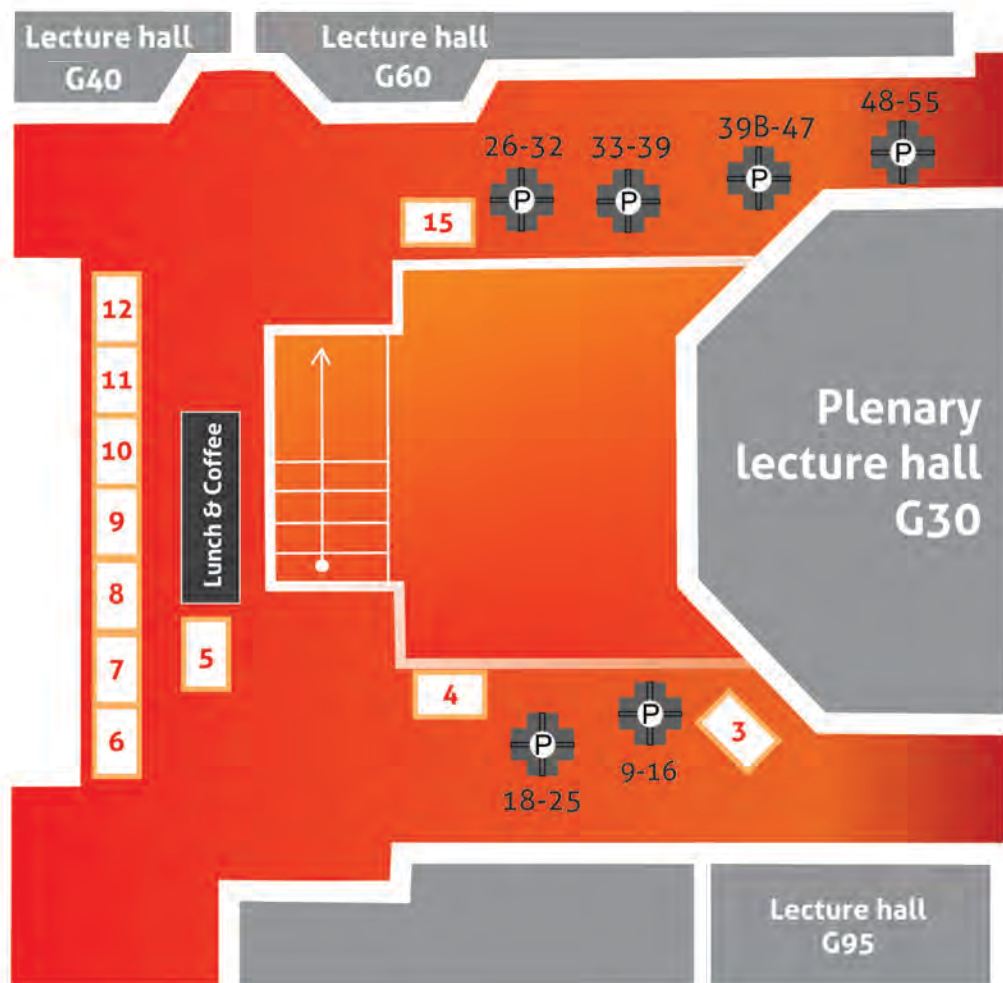
INTERNATIONAL UNION
OF BIOCHEMISTRY AND
MOLECULAR BIOLOGY



**First-time members of Life Sciences Switzerland (LS²)
are offered a 50% discount on their first year
American Society for Cell Biology (ASCB)
membership dues!**



www.ascb.org



REG

Registration



Catering zones

1-37

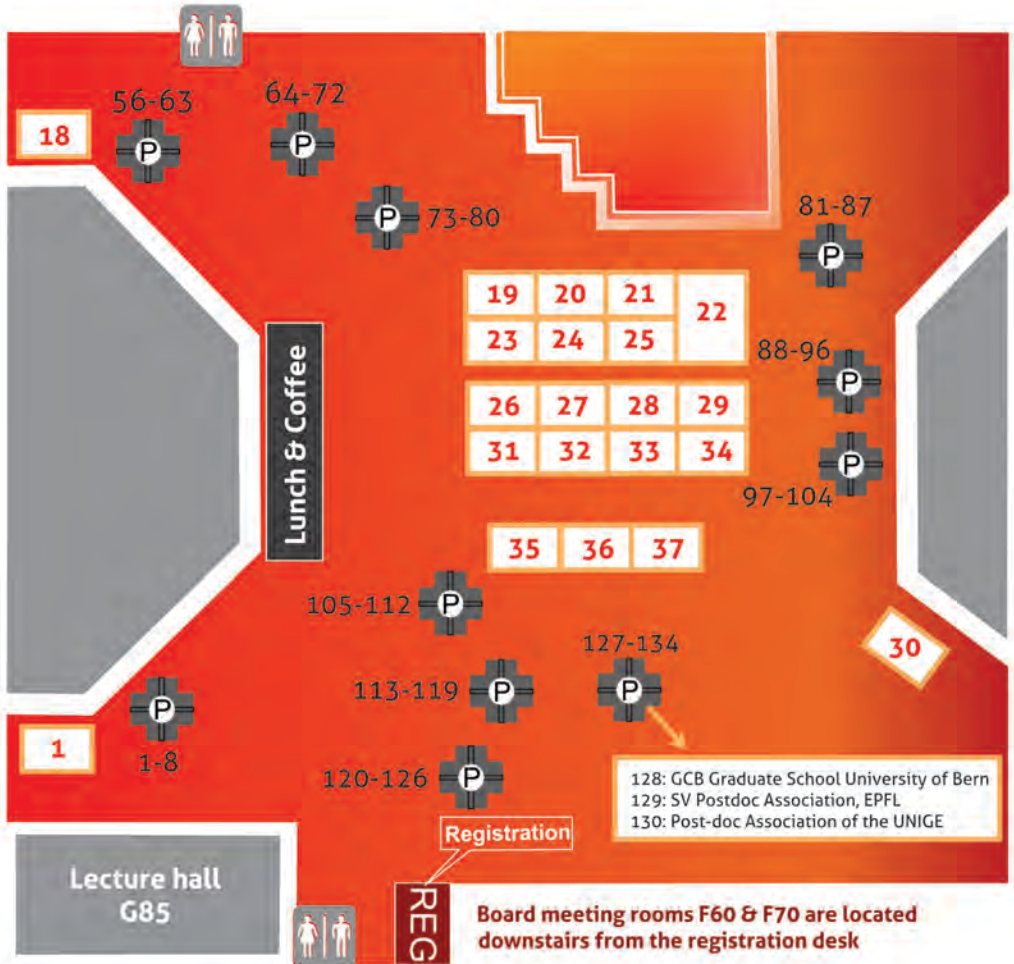
Exhibition booths



Poster boards

EXHIBITORS

1. Enzo Life Sciences
3. Huberlab
4. Witec
5. Chemie Brunschwig
6. Biotechne
7. Jackson Immuno Research
8. Omni Life Sciences



Lecture hall
G85

Registration

128: GCB Graduate School University of Bern
129: SV Postdoc Association, EPFL
130: Post-doc Association of the UNIGE

Board meeting rooms F60 & F70 are located
downstairs from the registration desk

- 9. PeproTech
- 10. Axon Lab
- 11. VWR International
- 12. INTEGRA Biosciences
- 15. Microsynth
- 18. Takara Bio Europe
- 19. Socorex
- 20. Lab Force

- 21. BMG Labtech
- 22. Merck
- 23. LubioScience
- 24. Macherey Nagel
- 25. Life Systems Design
- 26. Labgene Scientific
- 27. Promega
- 28. Tecan

- 29. Roth
- 30. Eurofins Genomics
- 31. Bucher Biotec
- 32. IGZ Instruments
- 33. GE Healthcare
- 34. Beckman Coulter
- 35. BioTek Instruments
- 36. BioConcept
- 37. Eppendorf

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PROGRAM OVERVIEW DAY ONE

THURSDAY 14.02.2019

08:00 – 09:00	REGISTRATION, WELCOME COFFEE, MOUNTING OF POSTERS
09:00 – 09:10 Lecture hall G30	WELCOME ADDRESS Monica Gotta (Chairwoman of the LS ² Annual Meeting 2019) Urs Greber (President of LS ²)
09:10 – 10:00 Lecture hall G30	PLENARY LECTURE I "The EMBO Keynote Lecture" Anna AKHMANOVA (Utrecht University, NL) "Regulation of microtubule catastrophe, rescue and repair: seeing proteins and drugs in action"
10:00 – 10:10 Lecture hall G30	Update by the Swiss Laboratory Animal Science Association (SGV) & Announcement by the new Swiss 3R Competence Centre
10:10 – 10:35	COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING
10:35 – 12:30 Lecture hall G30	SPECIAL PLENARY SESSION <u>PIs OF TOMORROW - THE FUTURE OF SWISS RESEARCH</u>
12:40 – 14:45 Room F70 (downstairs)	FEEDBACK SESSION <u>PIs OF TOMORROW</u> <i>For jury and finalists only</i> <i>Lunch bags will be delivered into the room</i>
12:30 – 13:45	LUNCH BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING
12:35 – 13:45 Lecture hall G95	CAREERS LUNCH SESSION "You and your career" SANDWICH LUNCH WILL BE PROVIDED IN THE ROOM! Note that the regular hot lunch from the catering zones cannot be taken into the room.

12:30 – 13:45
Room F62

LS² Molecular & Cellular Biosciences Section Board Meeting
Upon invitation only

13:45 – 15:45

PARALLEL SYMPOSIA I

13:45 – 15:45
Lecture hall G40

1 - THE PROTEOME IN 3D
by LS² Section Proteomics

13:45 – 15:45
Lecture hall G95

2 - BACTERIAL CELL BIOLOGY
by Swiss Society for Microbiology (SSM)

13:45 – 15:45
Lecture hall G60

3 - LIVE CELL IMAGING APPROACHES IN CELL BIOLOGY
by LS² Section Molecular & Cellular Biosciences

15:45 – 16:15

COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION,
POSTER VIEWING

16:15 – 16:45
Lecture hall G30

FRIEDRICH-MIESCHER-AWARD LECTURE
Bernd Bodenmiller (University of Zurich)
"Analysis of tissue ecosystems in health and disease
by highly multiplexed imaging"

16:45 – 17:30
Lecture hall G30

PLENARY LECTURE II
Jodie ROSENBLATT
(formerly University of Utah, US; now King's College London, UK)
"Epithelial cell extrusion and its misregulation in
disease"

17:30 – 18:30

POSTER SESSION & INDUSTRY EXHIBITION @ LICHTHOF
**Please note that the food and the full Apéro will
only start after this session to really allow for
uninterrupted interactions at posters and booths!**
Just grab a drink and enjoy the posters & exhibition
first please!

Odd poster numbers: 17:30 – 18:00
Even poster numbers: 18:00 – 18:30



18:30 – 20:30

Jubilee Apéro: "50 years of USGEB/LS²"

20:35 – 21:15
Room F70
(downstairs)

LS² Delegates Assembly
Upon invitation only



PROGRAM OVERVIEW DAY TWO

FRIDAY 15.02.2019

09:00 – 09:55 Lecture hall G30	PLENARY LECTURE III: Leonie RINGROSE (Humboldt University, Berlin, DE) "Epigenetics meets mathematics: The fusion of experiment and theory brings insights beyond intuition"
09:55 – 10:00	A WORD FROM THE MEETING CHAIRWOMAN MONICA GOTTA
10:00 – 10:30	COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING
10:30 – 12:30	PARALLEL SYMPOSIA II
10:30 – 12:30 Lecture hall G95	<u>1 - SWEET MOLECULES IN INFLAMMATION & CANCER (GLYCOSCIENCES)</u> by LS ² Partners Swiss Society of Experimental Pharmacology (SSEP)
10:30 – 12:30 Lecture hall G40	<u>2 - CHEMICAL BIOLOGY & DRUG DEVELOPMENT</u> by the LS ² Partners Swiss Chemical Society (SCS)
10:30 – 12:30 Lecture hall G60	<u>3 - CHROMATIN, EPIGENETICS AND THE TRANSMISSION OF ACQUIRED STATES ACROSS GENERATION</u> by LS ² Section Molecular & Cellular Biosciences
12:30 – 13:00	LUNCH BREAK @ LICHTHOF, POSTER VIEWING, INDUSTRY EXHIBITION
12:30 – 13:00 Room F62 (downstairs)	SSEP Board Meeting <i>Upon invitation only</i>
13:00 – 14:00	POSTER SESSION & INDUSTRY EXHIBITION @ LICHTHOF

14:00 – 16:00

PARALLEL SYMPOSIA III

14:00 – 16:00

Lecture hall G60

1 - PUBLIC PANEL DISCUSSION

"Is merit (gender) biased? Advancement in academia"

14:00 – 16:00

Lecture hall G85

2 - REGENERATION & PATHOLOGY OF SKELETAL MUSCLE **by LS² Section Physiology**

16:00 – 16:30

**COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION,
POSTER VIEWING**

16:00 – 16:30

Lecture hall G95

LS² General Assembly

All members are welcome & have voting rights!

16:30 – 17:15

Lecture hall G30

AWARD CEREMONIES

- 1. Pls of Tomorrow Award**
- 2. Poster Prizes**
- 3. Exhibition Lottery draw**

16:45 – 17:15

Lecture hall G30

PLENARY LECTURE IV

THE LELIO ORCI AWARD LECTURE

Jean-Claude MARTINOU (University of Geneva)

Pyruvate metabolism and mitochondrial gene expression : two facets of mitochondrial biology with implications for neuropathologies and cancer"

17:15 – 18:00

Lecture hall G30

PLENARY LECTURE V

Anne BERTOLOTTI

(MRC Laboratory of Molecular Biology, Cambridge, UK)

"Power and benefit of selective phosphatase inhibitors for neurodegenerative diseases"

18:00 – 18:10

Lecture hall G30

CLOSING REMARKS & ACKNOWLEDGMENTS

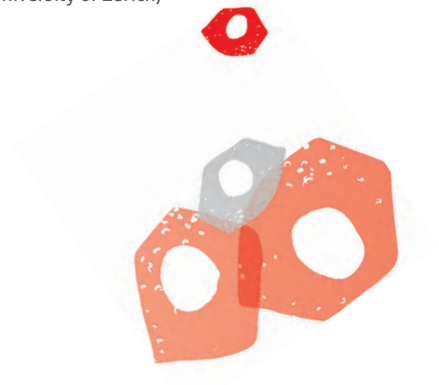
Monica Gotta

(Chairwoman of the LS² Annual Meeting 2019, University of Geneva)

Urs Greber (President of LS², University of Zurich)

18:15

END OF THE CONFERENCE



EXHIBITION LOTTERY

Answer the following questions at the exhibitor booths, collect at least 10 stickers on your sticker sheet (inset in the meeting booklet), and bring the sheet back to us before 15.2.2019, 15:00. Then, be present during the big lottery draw at the end of the meeting to win the following great prizes!



Our sponsors of the five main lottery prizes are:

1. PRIZE: A 500 CHF gift voucher by STA Travel



Beckman Coulter

booth number 34

Create a Centrifugation Program on the Avanti J-15 Table Top Centrifuge with only a few clicks.

2. PRIZE: An Apple iPad



BioConcept

booth number 36

BioConcept is a cell and tissue culture media manufacturer, where are the products produced?

3. PRIZE: Noise-cancelling headphones



Tecan

booth number 28

Name three bench-top products from Tecan.

4. PRIZE: A 200 CHF SBB travel voucher



IGZ Instruments

booth number 32

和光 What characters are these and what is the company called in German?

5. PRIZE: A 100 CHF voucher for Orell Füssli book store



Macherey Nagel

booth number 24

#margeryexplores Pick up one of my friends at the booth and get a stamp.

All other participating exhibitors & their questions:



Axon Lab *booth number 10*

With which 3 workflows are you in the right place at Axonlab Life Science?



Biotechne *booth number 6*

Which brands make up the Bio-Techne family?



BioTek Instruments *booth number 35*

Do you know two products Biotek offers for live cell imaging?



BMG Labtech *booth number 21*

If you are into microplate readers, get into the new CLARIOstar^{Plus} with a virtual reality tour.



Bucher Biotec *booth number 31*

How many fluorescent colors can you image in parallel with the Logos Celena S digital microscope?



Chemie Brunswick *booth number 5*

Who is our new supplier for exosome isolation and simple protein extraction kits?



Enzo Life Sciences *booth number 1*

1. Which one is not an Enzo's Technology Platform?

- Live cell analysis
- Chemicals Analysis
- Immunoassays
- Genomics
- Immunohistochemistry
- Small Molecule

2. What is the name of Enzo distribution platform?



Eppendorf *booth number 37*

What kind of tube can be used in the new Eppendorf centrifuge 5425 and not in the predecessor model?



Eurofins Genomics *booth number 30*

OMG: Share your craziest lab accident and win a brand-new Kindle!



GE Healthcare *booth number 33*

Take our short quiz at the booth!



HUBERLAB booth number 3

Which exclusive representation of HUBERLAB advertizes using the slogan "Your Power for Health"?



INTEGRA Biosciences booth number 12

How many different VOYAGER space adjustable pipette types are available?



Jackson Immuno Research booth number 7

We have added anti-Camelid secondary antibodies to our range. How many specificities to Alpaca do we have?



Lab Force booth number 20

Homogenize fruits and gummi bears with our Omni homogenizers!



Labgene Scientific booth number 26

List three major innovations / news in the labgene product range for the year 2019!



Life Systems Design booth number 25

Life Systems Design: Participants will be asked to pipette 4 different volumes of a liquid into a tube!



LubioScience booth number 23

Spin our Wheel of Fortune, receive your stamp and win additional instant prizes!



Merck booth number 22

In what scientific symposia will Merck give a 20 minutes talk?



Microsynth booth number 15

What is the fastest Sanger Sequencing Service in Switzerland? What are the three pillars of Microsynth's product portfolio?



Omni Life Sciences booth number 8

How do you call the new device to simplify and improve your spheroid, organoid and iPS cell culture?



PeproTech booth number 9

In what year was PeproTech first started?



Promega booth number 27

List at least one technology from the Promega toolbox that allows monitoring of protein degradation in kinetic mode.



Roth booth number 29



What kind of product am I in the lab?
Find me at the Roth AG booth!



Socorex booth number 19

Guess how many pipette tips are in our vase and win a little gift!



Takara Bio Europe booth number 18

What is "Next Generation Seamless Cloning?"



VWR International booth number 11

What is the simplest, most efficient and economical way to deliver DNA to your cells and where can you find that product?



Witec booth number 4

What is the name of the brand-new instrument at our booth to dispense single-cells into 96 or 384-well plates?

Collect at least 10 stickers from our exhibitors and win!

To participate in a draw, bring your sticker sheet to the registration desk until 15.2., 15.00 and be present during the Award Ceremonies @ Lecture hall G30 from 16.30-17.15 the same day.


Good Luck!

DETAILED PROGRAM DAY ONE

THURSDAY 14.02.2019

08:00 – 09:00 REGISTRATION, WELCOME COFFEE, MOUNTING OF POSTERS

09:00 – 09:10 WELCOME ADDRESS
Lecture hall G30 Monica Gotta (University of Geneva), Chairwoman of the LS² Annual Meeting 2019
Urs Greber (University of Zurich), President of LS²

09:10 – 10:00 PLENARY LECTURE I
Lecture hall G30 "The EMBO Keynote Lecture"
Anna AKHMANOVA (Utrecht University, NL) 
"Regulation of microtubule catastrophe, rescue and repair: seeing proteins and drugs in action"

Tight regulation of microtubule dynamics is essential for many cellular processes, including cell division, migration and morphogenesis. Using in vitro reconstitution experiments, we explored the detailed mechanisms of such regulation by microtubule plus end tracking proteins. We found that CLASPs, acting in a complex with End-Binding (EB) proteins efficiently suppressed microtubule catastrophes, including those induced by microtubule encounters with barriers, drugs and depolymerizing agents. A single conserved TOG domain of CLASPs was necessary and sufficient to perform this function. Moreover, CLASP could promote tubulin incorporation into incomplete and damaged microtubule lattices. Cell biological experiments suggested that regulation of microtubule dynamics and integrity by CLASP is essential for controlling cell shape and movement. Furthermore, we used assays with fluorescent analogues of microtubule-stabilizing and destabilising agents to directly visualize their effects on microtubule growth. We found that a single molecule of the microtubule-depolymerizing drug eribulin bound to the microtubule tip was sufficient to trigger a catastrophe. Microtubule rescue and stabilization by taxanes was more complex and required the accumulation of at least ~15 drug molecules in a defined microtubule region.



10:00 – 10:10
Lecture hall G30

Update by the Swiss Laboratory Animal Science Association (SGV)

Birgit Ledermann (President SGV & Novartis Pharma AG)
&

Announcement by the new Swiss 3R Competence Centre

Chantra Eskes (Executive Director, 3RCC)



10:10 – 10:35

COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING

10:35 – 12:30

SPECIAL PLENARY SESSION

10:35 – 12:30
Lecture hall G30

PIs OF TOMORROW - THE FUTURE OF SWISS RESEARCH

Chairs: Nino Nikolovski, Aleksandra Konovalova, Elisa Araldi & Emanuela Milani (All ETH Zurich)



Swiss Academy of Sciences
Akademie der Naturwissenschaften
Accademia di scienze naturali
Académie des sciences naturelles



This session offers an opportunity to postdocs and senior researchers interested in pursuing an academic career to present a talk similar in format to a professorship application interview. The finalists below have been pre-selected from close to 60 applicants.

A knowledgeable jury panel of professors will evaluate the presentations and provide feedback in a one-on-one session afterward.

Jury members of the 2019 edition:

Leonie Ringrose (Humboldt University Berlin, DE)

Christian Heinis (EPF Lausanne)

Federica Sallusto (ETH Zurich & IRB Bellinzona)

Martin Müller (University of Zurich)

Michele de Palma (EPF Lausanne)

Suliana Manley (EPF Lausanne)

Matthias Peter (ETH Zurich)

Nicole Joller (University of Zurich)

10:35 – 10:40	Introductory words by the chairs of the session
	<u>The finalists of the 2019 edition:</u>
10:40 – 11:00	Francesca Ronchi (University of Bern) "Host-microbial interaction in brain homeostasis and inflammation"
11:00 – 11:20	Thomas C. T. Michaels (Harvard University, Cambridge, MA, US) "Bridging time and length scales in biomolecular self-assembly"
11:20 – 11:40	Michael Zimmermann (Yale University, West Haven, CT, US) "Harnessing microbial xenobiotic metabolism for mechanistic understanding of host-microbiota interactions"
11:40 – 12:00	Jean-Philippe Krieger (Gothenburg University, SE) "The Voice from Within: Leveraging the Gut-Brain Axis to Reduce Symptoms in Patients with Schizophrenia"
12:00 – 12:20	Juho Pokki (Stanford University, Stanford, CA, US) "Biomechanics of metastatic cancer development: <i>in vitro</i> and <i>in vivo</i> technologies for diagnosis and treatments"
Afterwards	Collection of public votes & feedback session for jury and finalists only (see below)
12:30 – 13:45	LUNCH BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING
12:40 – 14:45 Room F70 (downstairs)	<u>FEEDBACK SESSION PIs OF TOMORROW</u> <i>For jury and finalists only</i> <i>Lunch bags will be delivered into the room</i>
12:40 – 12:55	Jury decision meeting Short session only for jury members on decision of the winner
12:55 – 13:45	Lunch of presenters and jury members General remarks, discussion, and networking

13:45 – 14:45

Personal feedback

One-on-one feedback from 4 jury members per candidate (4 x 15 min)

The jury prize and public prize winner will be announced during the award ceremony at the end of the meeting on February 15, 2019

12:40 – 13:45

Lecture hall G95

CAREERS LUNCH SESSION

“You and your career”

Get prepared for your career. Learn about yourself, your possibilities on the job market, the tools to apply, and how to develop a network and a plan to get to the job you want.

Organized by the Career Services at the University of Zurich.

Invited speaker

Daniela Gunz (Career Services University of Zurich)



SANDWICH LUNCH WILL BE PROVIDED IN THE ROOM!

Note that the regular hot lunch from the catering zones cannot be taken into the room.

12:30 – 13:45

Room F62

LS² Molecular & Cellular Biosciences Section Board Meeting

Upon invitation only



13:45 – 15:45

PARALLEL SYMPOSIA I

13:45 – 15:45

Lecture hall G40

1 - THE PROTEOME IN 3D

by LS² Section Proteomics

Chair: Paola Picotti (ETH Zurich)

Invited speakers

13:45 – 14:15

Juri Rappsilber (TU Berlin, DE)

"*In situ* protein structures by mass spectrometry - emerging prospects"

14:15 – 14:45

Kathryn S. Lilley (University of Cambridge, UK)

"How RNA and protein interacts in time and space"

14:45 – 14:55

Industry speaker

Jens Laettig (Tecan)

"Semi-automated sample processing for peptide enrichment and buffer exchange"



14:55 – 15:05

Speakers from abstracts

Kathrin Frey (ETH Zurich), Poster No. 100

"Associating HDL proteotype with clinical HDL particle signaling capacity"

15:05 – 15:15

Marco Faini (ETH Zurich), Poster No. 114

"Quantitative structural biology of endogenous protein complexes "

15:15 – 15:25

Alexander Leitner (ETH Zurich), Poster No. 115

"Structural analysis of protein–RNA complexes using crosslinking of segmentally isotope-labeled RNA and tandem mass spectrometry (CLIR-MS/MS)"

15:25 – 15:40

Poster flash talks

Philip Knobel (University of Zurich), Poster No. 29

"Exploring the interactome of ADAM17 in the tumor microenvironment and its role for radiation resistance"

Lydie Lane (SIB & University of Geneva), Poster No. 62

"Using neXtProt and other bioinformatics resources to identify human uncharacterized proteins potentially involved in male reproduction"

Liliana Malinovska (ETH Zurich), Poster No. 102
"Probing the structural landscape of alpha synuclein in cells and tissues"

Stoyan Stoychev (CSIR Biosciences, ZA), Poster No. 105
"Development of fully automated pipeline for phosphoproteome profiling"

Rodrigo Villaseñor (University of Zurich), Poster No. 123
"Proximity biotinylation labeling with engineered chromatin readers reveals the proteome composition of key chromatin states in mouse embryonic stem cells"

13:45 – 15:45
Lecture hall G95

2 - BACTERIAL CELL BIOLOGY

by Swiss Society for Microbiology (SSM)

Chairs: Pilar Junier (University of Neuchâtel) & *Patrick Viollier* (University of Geneva)

Invited speakers

13:45 – 14:15

Simonetta Gribaldo (Institut Pasteur, Paris, FR)
"Firmicutes with an outer membrane? Insights into the evolution of the bacterial cell envelope"

14:15 – 14:45

Klas Flärdh (Lund University, SE)
"Mechanisms that control cell polarity and polar growth in a bacterium"

14:45 – 14:55

Industry speaker

Michael Siegart (Resistell AG)
"Resistell - nano-vibration antibiogram"



14:55 – 15:05

Speakers from abstracts

Christian Röhrig (ETH Zurich), Poster No. 46
"Improved targeting of intracellular and drug-resistant *Staphylococcus aureus* by fusion of peptidoglycan hydrolases to cell-penetrating peptides"

15:05 – 15:15

Eric Sumrall (ETH Zurich), Poster No. 47
"Bacteriophage predation selects for non-virulence in *Listeria monocytogenes*"

- 15:15 – 15:25 **Victoria Wosika** (University of Lausanne), Poster No. 124
 "Single promoter transcription dynamics reveal bursting kinetic chromatin regulation of osmostress genes expression"
- 15:25 – 15:35 **Poster flash talks**
Kevin Assoumou (University of Geneva), Poster No. 5
 "Interaction between ESCRT and autophagy pathways in membrane damage repair"
- Nienke Jager** (University of Lausanne), Poster No. 45
 "Single cell analysis of the filamentous growth pathway in *Saccharomyces cerevisiae*"
- Dominik Olszewski** (University of Zurich), Poster No. 125
 "The role of ceramide at late stages of adenovirus infection"
- 13:45 – 15:45
 Lecture hall G60
- 3 - LIVE CELL IMAGING APPROACHES IN CELL BIOLOGY by LS² Section Molecular & Cellular Biosciences**
 Chair: Patrick Meraldi (University of Geneva)
- 13:45 – 14:15 **Invited speakers**
Helder Maiato (IBMC Porto, PT)
 "Spatial control of time during chromosome segregation"
- 14:15 – 14:45 **EMBO Young Investigator Lecture**
Caren Norden
 (MPI of Molecular Cell Biology & Genetics, Dresden, DE)
 "Marking the retina: The interplay of single cell biology and tissue-wide phenomena"
- 14:45 – 15:05 **Industry speaker**
Cornelia Rössler (Merck)
 "The boost of your microscope needs for advanced live cell imaging"
- 15:05 – 15:15 **Speakers from abstracts**
Dora Mahecic (EPFL Lausanne), Poster No. 18
 "Membrane bending energy and tension govern mitochondrial division"



15:15 – 15:25

Paolo Armando Gagliardi (University of Bern), Poster No. 25
"Spatio-temporal oncogenic signalling in a breast cancer epithelial community"

15:25 – 15:35

Poster flash talks

Alexandra Bondaz (University of Geneva), Poster No. 52
"Cell fate regulation of spindle assembly"

Gabriella Saro (University of Fribourg), Poster No. 77
"Dissecting calcium transient mechanisms in a *C. elegans* thermal nociceptor"

Anthony Petkidis (University of Zurich), Poster No. 126
"Towards the biological mechanisms underlying Adenovirus-induced cell lysis"

15:45 – 16:15

COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION,
POSTER VIEWING

16:15 – 16:45

Lecture hall G30

FRIEDRICH-MIESCHER-AWARD LECTURE

Bernd Bodenmiller (University of Zurich)

"Analysis of tissue ecosystems in health and disease by highly multiplexed imaging"



16:45 – 17:30

Lecture hall G30

PLENARY LECTURE II

Jodie ROSENBLATT

(formerly University of Utah, US; now King's College London, UK)

"Epithelial cell extrusion and its misregulation in disease"

What links cell division to cell death in order to maintain constant epithelial cell densities? We found that mechanical forces control both processes: cell stretching triggers rapid cell division, whereas, crowding causes cell death by a process we call 'epithelial extrusion', in which cells fated to die are seamlessly squeezed out from epithelia. Extrusion is essential for maintaining correct epithelial cell densities. We find a growing number of diseases result from misregulation of extrusion. Excessive extrusion disrupts epithelial barrier, causing inflammation and infection hyper-sensitivity after an asthma attack. Conversely, oncogenic mutations hijack apical extrusion signaling and promote a class of aggressive

tumors, which invade via a new mechanism—basal extrusion.

17:30 – 18:30

POSTER SESSION & INDUSTRY EXHIBITION @ LICHTHOF

Please note that the food and the full Apéro will only start after this session to really allow for uninterrupted interactions at posters and booths!

Just grab a drink and enjoy the posters & exhibition first!

Odd poster numbers: 17:30 – 18:00

Even poster numbers: 18:00 – 18:30

18:30 – 20:30

Jubilee Apéro: "50 years of USGEB/LS²"

Plus continued viewing of posters & industry exhibition



20:30

END OF THE FIRST CONFERENCE DAY

20:35 – 21:15
Room F70
(downstairs)

LS² Delegates Assembly

Upon invitation only



DETAILED PROGRAM DAY TWO

FRIDAY 15.02.2019

09:00 – 09:55

Lecture Hall G30

PLENARY LECTURE III:

Leonie RINGROSE (Humboldt University, Berlin, DE)

“Epigenetics meets mathematics: The fusion of experiment and theory brings insights beyond intuition”

Epigenetic gene regulation is highly stable: epigenetic memory of gene expression states can persist over many cell generations and potentially for longer. However, epigenetic regulation is also flexible: genes that are subject to epigenetic regulation can respond dynamically to environmental and developmental signals. How can epigenetic regulation be both stable and flexible? I propose that the key lies in the highly dynamic nature of epigenetic systems. Over the last two decades it has become clear that the nucleus is an extraordinarily busy and noisy place: many proteins, including epigenetic regulators, are in constant motion, exchanging rapidly between chromatin bound and free states. Quantitative aspects of this motion are highly regulated. I propose that that to fully understand this regulation, epigenetics needs mathematics. We need “moving models” built of mathematical descriptions, which we can feed with measured values of quantities and mobilities of the components. A good model makes testable predictions that tell us whether our hypothesis makes sense. If it does not, we change the model. There has never been a better time to combine theoretical approaches with quantitative experiments. On the theoretical side, the last decade has seen a quiet revolution in the application of models built by physicists to the deep questions of epigenetics. On the experimental side, the advent of technologies that allow real time analysis at the single cell and single molecule level, together with those that enable targeted genome editing, allow precise perturbation and quantitative measurements at an unprecedented level. It is time for epigenetics to meet mathematics. I will give examples from work in the field and in my own lab, of how the fusion of



experiment and theory has brought fresh insights into epigenetic regulation that go beyond intuition.

09:55 – 10:00
Lecture Hall G30

A WORD FROM THE MEETING CHAIRWOMAN
MONICA GOTTA

afterwards

Pitch: "LabCoffee - encouraging interaction between scientists through randomized coffee trials"
Damian Szklarczyk (Swiss Institute of Bioinformatics & University of Zurich)

10:00 – 10:30

COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION, POSTER VIEWING

10:30 – 12:30

PARALLEL SYMPOSIA II

10:30 – 12:30

Lecture hall G95

1 - SWEET MOLECULES IN INFLAMMATION & CANCER (GLYCOSCIENCES)
by LS² Partners SSEP (Swiss Society of Experimental Pharmacology)
Chairs: Frédérique Lisacek (SIB & University of Geneva) & Stephan von Gunten (University of Bern)

10:30 – 11:00

Invited speakers
Thierry Hennet (University of Zurich)
"Pro- and anti-inflammatory properties of milk oligosaccharides"

11:00 – 11:30

Frédérique Lisacek
(SIB Swiss Institute for Bioinformatics, Geneva)
"Glycoinformatics can bridge glycomics with other -omics"

11:30 – 11:50

Industry speaker
Erdmann Rapp (GlyXera GmbH)
"Advances in the Glycoanalytical Toolbox"



11:50 – 12:00

Speakers from abstracts
Kayluz Frias Boligan (University of Bern), Poster No. 24
"Siglec-9+ and Siglec-9- natural killer (NK) cells as effectors of the immune system"

12:00 – 12:10

François Bonnardel (SIB), Poster No. 113
"Architecture and evolution of blade assembly in β -propeller lectins"

12:10 – 12:25



Poster flash talks

Samara Naim (University of Bern), Poster No. 1

"Non-apoptotic roles of the BCL-2 family member BOK"

Timo Rey (EPFL Lausanne), Poster No. 19

"Mitochondrial RNA Granules are organised as tiny but robust liquid droplets"

Nastaran Ghahhari (University of Geneva), Poster No. 26

"Genome-wide quantitative and functional decoding of estrogen receptor α -dependent enhancer activities in breast cancer"

Xiujie Liang (University of Fribourg), Poster No. 30

"Roles of Arginase-II in vascular endothelial inflammation under hypoxic condition"

Quentin Haas (University of Bern), Poster No. 81

"Glycan-checkpoint inhibitor unleashing CD8+ T cells against cancer"

10:30 – 12:30

Lecture hall G40

2 - CHEMICAL BIOLOGY & DRUG DEVELOPMENT

by the LS² Partners Swiss Chemical Society (SCS)

Chairs: Christian Heinis (EPF Lausanne) &

Radka Snajdrova (Novartis Pharma AG)

Invited speakers

10:30 – 11:00

Sabine L. Flitsch (The University of Manchester, UK)

"Design and Implementation of *De Novo* Biosynthetic Pathways"

11:00 – 11:30

Tom Ward (University of Basel)

"Endowing Organometallic Catalysis with A Genetic Memory: Artificial Metalloenzymes"

11:30 – 11:50

Industry speaker

Réka Nagy (Promega AG)

"Monitoring Functional Mechanisms of Protein Degradation using Promega's Toolbox"



11:50 – 12:10

Speaker from abstracts

Simone Haag (EPFL Lausanne), Poster No. 38

"Targeting STING with covalent small-molecule inhibitors"

12:10 – 12:25

Poster flash talks

Olesya Koloskova (NRC Institute of Immunology FMBA of Russia, RU), Poster No. 7
"Design of long-acting RNA drugs"

Johannes Rebelein (University of Basel), Poster No. 33
"Artificial *in vivo* transfer hydrogenation catalyzed by iridium complexes bound to carbonic anhydrase II"

Tijmen Booiij (ETH Zurich), Poster No. 37
"High-throughput drug screening with advanced cell-based assays"

Vanessa Carle (EPFL Lausanne), Poster No. 31
"Development of a potent coagulation factor XIa inhibitor based on a new cyclic peptide format"

Pierre Cosson (University of Geneva), Poster No. 6
"Antibodies for everybody"

10:30 – 12:30
Lecture hall G60

3 - CHROMATIN, EPIGENETICS AND THE TRANSMISSION OF ACQUIRED STATES ACROSS GENERATION

by LS² Section Molecular & Cellular Biosciences

Chairs: Susan Gasser (FMI Basel) & Francois Karch (University of Geneva)

Invited speakers

10:30 – 11:00

Oded Rechavi (Tel-Aviv University, IL)
"Transgenerational inheritance of small RNAs in *C. elegans*"

11:00 – 11:30

Petra Hajkova (MRC London Institute of Medical Sciences, UK)
"Epigenetic reprogramming in mouse development"

11:30 – 12:00

Susan Gasser (FMI Basel)
"How active chromatin marks drive sequestration of heterochromatin in differentiated cells"

12:00 – 12:10

Speaker from abstracts

Kamila Delaney (University of Geneva), Poster No. 54
"Local inhibition of PRC2 activity by H3.3K27M drives DNA replication defects through the JNK pathway"

12:10 – 12:25

Poster flash talks

Daniel Dilg (University of Geneva), Poster No. 39

"Uncovering the interplay between the growth-promoting transcription factor Sfp1 and the stress-responsive transcriptional activator Msn2"

Verena Hurst (FMI Basel), Poster No. 40

"Regulation of RNA polymerases by the checkpoint kinase Mec1 (ATR)"

Simona Abbatemarco (University of Geneva), Poster No. 48

"Cytoplasmic PLK-1 foci: a way to regulate PLK-1 function?"

Manh Tin Ho (University of Bern), Poster No. 58

"Noncanonical functions of Phenylalanyl tRNA synthetase"

Irina Lazar (University of Zurich), Poster No. 74

"Profiling of germ stem cells epigenome in a mouse model of epigenetic inheritance"

Andrea Fossati (ETH Zurich), Poster No. 99

"Insights into X-chromosome inactivation using quantitative mass spectrometry"

12:30 – 13:00

LUNCH BREAK @ LICHTHOF, POSTER VIEWING, INDUSTRY EXHIBITION

12:30 – 13:00

Room F62
(downstairs)

SSEP Board Meeting

Upon invitation only

13:00 – 14:00

POSTER SESSION & INDUSTRY EXHIBITION @ LICHTHOF

Odd poster numbers: 13:00 – 13:30

Even poster numbers: 13:30 – 14:00



14:00 – 16:00

14:00 – 16:00
Lecture hall G60

PARALLEL SYMPOSIA III



1 - PUBLIC PANEL DISCUSSION

Chair: Gerlind Wallon (EMBO Deputy Director & Program Manager)

"Is merit (gender) biased? Advancement in academia" *How do (gender) biases influence the evaluation and selection of scientists? How can we address (gender) biases and reduce their influence on selection processes?*

In this session we would like to explore how gender biases influence the evaluation of merit and thereby the outcome of selection processes in academia and elsewhere and how these can be addressed. Gerlind Wallon will summarize the current status of the representation of women in academia. Marieke van den Brink will report on her studies that reveal how recruitment in academia is influenced by (gender) biases. Britt Dahmen will present how the cascading model, a quota system required by law, is implemented at Cologne University. This will be followed by a panel discussion.

With:

Britt Dahmen (Head of Department for Gender Equality and Diversity, University of Cologne, DE)

"E-Quality in selection processes: promising frameworks in practice"

and

Marieke van den Brink (Radboud Gender & Diversity Studies, Radboud University, Nijmegen, NL)

"Gender practices in recruitment and selection in academia"



14:00 – 16:00
Lecture hall G85

**2 - REGENERATION & PATHOLOGY OF SKELETAL MUSCLE
by LS² Section Physiology**

Chair: Maud Frieden (University of Geneva)

Invited speakers

14:00 – 14:30

Edgar Gomes (University of Lisbon, PT)

"Positioning of cell nucleus in the periphery of skeletal myofibers"

14:30 – 15:00

Susan Treves (University Hospital Basel)

"Extraocular muscle function is impaired in RYR3 KO mice"

Industry speaker

15:00 – 15:20

Omid Mashinchian (Nestlé Research)

"Myogenic specification of pluripotent stem cells using three-dimensional multicellular microenvironments"



15:20 – 15:35

Speaker from abstracts

Olivier Dorchies (University of Geneva), Poster No. 82

"Tamoxifen for treating fatal muscular dystrophies: an unexpected facet of a top-selling anticancer drug"

15:35 – 15:50

Poster flash talks

Sven Kappel (University of Bern), Poster No. 28

"TRPM4 controls cancer hallmark functions in colorectal cancer"

Paulina Stoklosa (University of Bern), Poster No. 69

"Possible role of TRPM4 in calcium-mediated exocytosis in colorectal cancer cell line HCT116"

Agnieszka Dyrda (University of Geneva), Poster No. 89

"The two STIM1 splice variants, STIM1 and STIM1 long, engage differently TRPC1 in store-operated calcium entry"

Anuradha Rajendran (University of Zurich), Poster No. 95

"Role of neutral amino acid transporter LAT4 in mouse epithelia"

Axel Tollance (University of Geneva), Poster No. 112

"Determination of the quiescence/activation mechanisms of muscle stem cells"

16:00– 16:30

COFFEE BREAK @ LICHTHOF, INDUSTRY EXHIBITION,
POSTER VIEWING

16:00 – 16:30

Lecture hall G95

LS² General Assembly

All members are welcome & have voting rights!

16:30 – 17:15

Lecture hall G30

AWARD CEREMONIES

1. Pls of Tomorrow Award

Jury & Public Award



2. Poster Prizes

1. The Swiss Young Cell Biologist of the Year

awarded by the LS² section MCB, which consists of a free registration to the American Society for Cell Biology (ASCB) Meeting 2019, 7-11 December 2019, Washington DC, US & a travel grant of 1400 CHF to the meeting, sponsored by SCNAT.



2. Physiology Poster prize

awarded by the LS² section Physiology and realized by the Physiology department of UNIGE



3. The poster prize of the Swiss Society of Experimental Pharmacology (SSEP)



4. Two FEBS letters poster prizes

given to a PhD student or an early-stage post-doc presenting unpublished work that fits within the scope of FEBS Letters - "basic research studies that are novel, advance knowledge, and provide mechanistic insights"



5. The Swiss 3R Competence Centre poster prize

The prize will be awarded for a poster presenting innovative contributions for the Replacement, Reduction or Refinement of animal experimentation (the principles of 3R).



3. Exhibition Lottery draw

Special thanks to the sponsors of our Exhibition Lottery!

1. PRIZE (worth 500 CHF) - A gift voucher by STA Travel of 500 CHF
sponsored by [Beckman Coulter](#)



2. PRIZE (worth 400 CHF)
An Apple iPad
sponsored by [BioConcept](#)



3. PRIZE (worth 300 CHF)
Noise-cancelling headphones
sponsored by [Tecan](#)



4. PRIZE (worth 200 CHF)
A SBB travel voucher of 200 CHF
sponsored by [IGZ Instruments](#)



5. PRIZE (worth 100 CHF)
A voucher for the Orell Füssli book store of 100 CHF
sponsored by [MACHEREY-NAGEL](#)



16:45 – 17:15
Lecture Hall G30

PLENARY LECTURE IV

THE LELIO ORCI AWARD LECTURE

Jean-Claude MARTINOU (University of Geneva)

Pyruvate metabolism and mitochondrial gene expression : two facets of mitochondrial biology with implications for neuropathologies and cancer"



17:15 – 18:00
Lecture Hall G30

PLENARY LECTURE V

Anne BERTOLOTTI

(MRC Laboratory of Molecular Biology, Cambridge, UK)

"Power and benefit of selective phosphatase inhibitors for neurodegenerative diseases"

The deposition of misfolded proteins is a defining feature of many age-dependent human diseases, including the increasingly prevalent neurodegenerative diseases. Why misfolding-prone proteins accumulate in aged cells remains largely unclear. Cells normally strive to ensure that proteins

get correctly folded and have powerful and sophisticated protein quality control mechanisms to maintain protein homeostasis under adverse conditions. However, with age, the cellular defence systems against misfolded proteins gradually fail, leading to the accumulation of misfolded proteins with devastating consequences for cells and organisms.

In principle, improving the cells' ability to deal with misfolded proteins should represent a generic approach to reduce pathology in diverse protein misfolding diseases. My lab has identified powerful strategies to help cells survive when protein quality control fails and implemented some of these strategies in mice. Exploiting the current knowledge on protein quality control systems, we have identified a small drug-like molecule that safely boosts the natural defence system against misfolded proteins. Our work demonstrates that generic approaches aimed at helping cells to survive protein quality control failures can be useful to prevent protein misfolding diseases, including the devastating neurodegenerative diseases.

The small molecules we have identified selectively inhibit a regulatory subunit of a serine/threonine phosphatase controlling the termination of a proteostatic pathway, an interesting finding because phosphatases were previously thought to be undruggable. We have expanded on this idea and developed assays to selectively inhibit regulatory subunits of phosphatases. The assays are versatile and in principle, generically applicable to any phosphatases. This work has broad relevance because there are hundreds of phosphatases that could be inhibited using the same paradigm consisting of targeting their regulatory subunits. This opens up a broad range of possibilities to manipulate cellular function for therapeutic benefit.

18:00 – 18:10

Lecture Hall G30

CLOSING REMARKS & ACKNOWLEDGMENTS

Monica Gotta

(Chairwoman of the LS² Annual Meeting 2019, University of Geneva)

Urs Greber (President of LS², University of Zurich)

18:15

END OF THE CONFERENCE



POSTERS



SORTED BY PRIMARY CATEGORY NAME AND POSTER NUMBER & WITHIN CATEGORIES BY FAMILY NAME

*= last author(s)

°= shared authorships

1

Apoptosis Cancer Biology

Non-apoptotic roles of the BCL-2 family member BOK

Naim, Samara

Samara Naim (1), Yuniel Fernandez-Marrero (1), Daniel Bachmann (1), Thomas Kaufmann (1)*
(1) University of Bern, Institute of Pharmacology

2

Autophagy

Dissecting the role of autophagy in normal and malignant B cells

Arambasic, Miroslav

Miroslav Arambasic (1), Urban Novak (2)*
(1) University of Bern, Department for Biomedical Research
(2) Inselspital, Universitätsspital Bern, Universitätsklinik für Medizinische Onkologie

3

Autophagy

The Legionella pneumophila effector RavZ as a tool to unravel the key role of autophagy during the infection cycle of Dictyostelium discoideum by Mycobacterium marinum

Mottet, Manon

Manon Mottet (1), Elena Cardenal-Muñoz (1), Thierry Soldati (1)*
(1) University of Geneva, Faculty of Science, Department of Biochemistry

4

Autophagy Cancer Biology

DMTF1 β -induced autophagy enhances migration and invasion of EMT-primed breast cancer cells

Niklaus, Nicolas

Nicolas Niklaus (1), Magali Humbert (1)°, Félice Janser (1)°, Mario Tschan (1)*
(1) Institute of Pathology, University of Bern

5

Biochemistry Microbiology

Interaction between ESCRT and autophagy pathways in membrane damage repair

Assoumou, Kevin

Kevin Assoumou (1), Ana T. López Jiménez (1)°, Elena Cardenal-Muñoz (1)°, Thierry Soldati (1)*
(1) University of Geneva, Biochemistry



6

Biochemistry
Animal Welfare

Antibodies for everybody

Cosson, Pierre

Pierre Cosson (1)*

(1) University of Geneva, Faculty of Medicine

7

Biochemistry
Drug Discovery

Design of long-acting RNA drugs

Koloskova, Olesya

Olesya Koloskova (1), Anastasiia Nosova (1), Musa Khaitov (1)

(1) NRC Institute of Immunology FMBA of Russia, Nanobiomedical Technologies Department

8

Biochemistry
Structural Biology

How do primases start the primer synthesis? Insights from an archaeoeukaryotic primase of a plasmid

Lipps, Georg

Georg Lipps (1), Frederic Allain (2), Jean Christophe Devillier (1), Boudet Julien (2)

(1) FHWN, ICB

(2) ETHZ

9

Biochemistry
Molecular and Cellular Biosciences

Function of the iron-sulphur cluster in the nuclease/helicase DNA2

Mariotti, Laura

Laura Mariotti (1), Giulia Brunoldi (2), Sebastian Wild (1), Richard Lutz (1), Kerstin Gari (1)*

(1) University of Zurich, Institute of Molecular Cancer Research

(2) ETH Zurich

10

Biochemistry
Molecular and Cellular Biosciences

Temperature-dependent proteome profiling unveils a role for Puf6 in pre-60S biogenesis

Oplova, Michaela

Michaela Oplova (1)°, Stefan Gerhardy (1)°, Ludovic Gillet (2)°, Richard Börner (3)°, Rob van Nues (4)°, Ahmed Moursy (5)°, Alexander Leitner (2)°, Martin Altvater (1)°, Frederic H. Allain (5)*, Sander Grannemann (4)*, Ruedi Abersold Aebersold (2)*, Roland Sigel (6)*, Vikram G. Panse (7)*

(1) Institute of Biochemistry, ETH Zürich, Department of Biology

(2) Institute of Molecular Systems Biology, ETH Zürich, Department of Biology

(3) Institute of Inorganic Chemistry, University of Zürich, Department of Chemistry

(4) Center for Synthetic and Systems Biology, University of Edinburgh, University of Edinburgh

(5) Institute of Molecular Biology and Biophysics, ETH Zürich, Department of Biology

(6) Institute of Inorganic Chemistry, University of Zürich, Department of Biology

(7) Institute of Medical Microbiology, University of Zürich, University of Zürich

11

Biochemistry, Structural Biology

Cellular control of Whi3 aggregation and its age-dependent malfunction

Peskett, Thomas

Thomas Peskett (1), Yves Barral (1)*
(1) ETH Zurich, Institute of Biochemistry

12**Biochemistry
Proteomics****The impact of chemical
modulators on α -Synuclein
structure****Stalder, Patrick**

Patrick Stalder (1), Liliana Malinovska (1)°,
Paola Picotti (1)*
(1) ETH Zürich, Biology

13**Biochemistry
Molecular and Cellular Biosciences****The role of UNC93B1 interaction
with STIM1 and STIM2 in calcium
signaling.****Wang, Wen-An**

Wen-An Wang (1)°, Nicholas Demaurex
(1)*
(1) University of Geneva, Cell Physiology
and Metabolism

14**Biochemistry
Molecular and Cellular Biosciences****Development of a single-molecule
pull-down assay to analyze the
composition of protein-nucleic
acid complexes****Zsok, Janka**

Janka Zsok (1), Karsten Weis (1), Elisa Dultz
(1)*
(1) ETHZ, IBC

15**Biophysics****Biological nanopore for single
molecular sensing****Cao, Chan**

Chan Cao (1)°, Nuria Cirauqui (2)°, Matteo
Dal Peraro (1)*
(1) Laboratory for Biomolecular Modeling,
Institute of Bioengineering, School of Life
Sciences, EPFL
(2) Department of Pharmaceutical
Biotechnology, Universidade Federal do Rio
de Janeiro

16**Biophysics
Biochemistry****NMR spectroscopic investigation
of protein structure, function and
dynamics in context of
macromolecular crowding applied
on the model system CspB****Köhn, Birgit**

Birgit Köhn (1), Michael Kovermann (1)
(1) Fachbereich Chemie & Research School
Chemical Biology (KoRS-CB), University of
Konstanz, DE

18**Biophysics
Molecular and Cellular Biosciences****Membrane bending energy and
tension govern mitochondrial
division****Mahecic, Dora**

Dora Mahecic (1)°, Lina Carlini (1)°, Tatjana
Kleele (1), Adai Colom (2), Antoine Goujon
(2), Stefan Matile (2), Aurelien Roux (2),
Suliana Manley (1)*
(1) EPFL, Institute of Physics



(2) University of Geneva, School of Chemistry and Biochemistry

19

Biophysics
Molecular and Cellular Biosciences

Mitochondrial RNA Granules are organised as tiny but robust liquid droplets

Rey, Timo

Timo Rey (1), Emilie Cuillery (2)^o, Sofia Zaganelli (3)^o, Sulfiana Manley (1)*, Jean-Claude Martinou (3)^o

(1) EPFL, IPHYS

(2) EPFL, SV

(3) Université Genève

20

Cancer Biology
Genetics

Functional *in vivo* screening of novel oncogenic suppressors/enhancers in zebrafish melanoma model

Banik, Ishani

Ishani Banik (1)

(1) Universitätsspital Zurich, Dermatology

21

Cancer Biology
Molecular and Cellular Biosciences

Transient receptor potential melastatin 4 plays a role in cell adhesion, migration and proliferation of prostate cancer cells

Borgström, Anna

Anna Borgström (1)^o, Barbara Hauer (1), Christine Peinelt (1)*

(1) NCCR TransCure, Institute of Biochemistry and Molecular Medicine, University of Bern

22

Cancer Biology
Chemical Biology

Precision Drugs: Strategy to Minimize Side Effects of PI3K Inhibitor Cancer Therapy

Borsari, Chiara

Chiara Borsari (1)^o, Erhan Keles (1)^o, Denise Rageot (1)^o, Matthias P. Wymann (1)*

(1) University of Basel, Department of Biomedicine

23

Cancer Biology
Pharmacology

Therapeutic resistance in leukaemia: implication of the tyrosine kinase c-kit and integrin crosstalk

Chebbi, Seimia

Seimia Chebbi-Mathlouthi (1), Bernhard Wehrle-Haller (1)*

(1) UNIGE, CMU, PHYM department, Department of Cell Physiology and Metabolism

24

Cancer Biology

Siglec-9+ and Siglec-9- natural killer (NK) cells as effectors of the immune system.

Frias Boligan, Kayluz

Kayluz Frias Boligan (1), Christine Gallas (1), Lukas Muerner (1), Christoph Schneider (1), Marc Zurcher (1), Stephan von Gunten (1)*

(1) Institute of Pharmacology, University of Bern

25

Cancer Biology Computational Biology

Spatio-temporal oncogenic signalling in a breast cancer epithelial community

Gagliardi, Paolo Armando

Paolo Armando Gagliardi (1), Marc-Antoine Jacques (1), Maciej Dobrzynski (1), Yannik Blum (1), Pascal Ender (1), Coralie Dessauges (1), Alberto Mattei (1), Olivier Pertz (1)

(1) University of Bern, Institute of Cell Biology

26

Cancer Biology Genetics

Genome-Wide Quantitative and Functional Decoding of Estrogen Receptor α -dependent Enhancer Activities in Breast Cancer

Ghahhari, Nastaran

Nastaran Ghahhari (1), Nicolas Hulo (2)*, Didier Picard (1)*

(1) Université de Genève, Département de Biologie Cellulaire

(2) Université de Genève, Institute of Genetics and Genomics of Geneva

27

Cancer Biology Autophagy

Beneficial effect of combining HER2 and autophagy inhibition in the treatment of esophageal adenocarcinoma cells

Janser, (Ariane) Félice

Félice (Ariane) Janser (1), Olivia Adams (2)*, Mario P. Tschan (3)*

(1) University of Bern, Institute of Pathology

(2) University of Bern, Institute of Pharmacology

(3) University of Bern, Institute of Pathology

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Cancer Biology Physiology

TRPM4 controls cancer hallmark functions in colorectal cancer

Kappel, Sven

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Cancer Biology Proteomics

Exploring the interactome of ADAM17 in the tumor microenvironment and its role for radiation resistance

Knobel, Philip

Philip Alexander Knobel (1), Martin Pruschy (1)

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Cardiovascular Biology

Roles of Arginase-II in vascular endothelial inflammation under hypoxic condition

Liang, Xiujie

Xiujie Liang (1), Prakash Arullampalam (1), Xiu-Fen Ming (1), Zhihong Yang (1)
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Cancer Biology

Dual knockout of RAP1GDS1 and RhoA is synthetic lethal in KRAS-driven non-small cell lung cancer

Kostyrko, Kaja

(1) Kaja Kostyrko, (2) Kyuho Han, (3) Marcus Kelly, (2) Edwin Jeng, (2) David Morgens, (2) Michael Bassik, (3) Peter Jackson, (1) E. Alejandro Sweet-Cordero (1) Helen Diller Family Comprehensive Cancer Center, University of California San Francisco, San Francisco, CA 94143, USA
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Chemical Biology Cardiovascular Biology

Development of a potent coagulation factor XIa inhibitor based on a new cyclic peptide format

Carle, Vanessa

Vanessa Carle (1)[°], Sangram Kale (1), Camille Villequey (1), Xu-Dong Kong (1), Christian Heinis (1)^{*}
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Chemical Biology Biochemistry



Site-specific photo-uncaging to study local sphingolipid metabolism

Feng, Suihan

Suihan Feng (1), Takeshi Harayama (1), Nicolas Winssinger (2), Howard Riezman (1)^{*}
(1) UNIGE, Biochemistry
(2) UNIGE, Organic Chemistry

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Chemical Biology Biochemistry

Artificial *in vivo* transfer hydrogenation catalyzed by iridium complexes bound to carbonic anhydrase II

Rebelein, Johannes

Johannes Rebelein (1), Yoann Cotellet (1)[°], Thomas Ward (1)^{*}
(1) University of Basel, Chemie

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Computational Biology Biochemistry

PaccMann: Prediction of anticancer compound sensitivity with multi-modal attention-based neural networks

Born, Jannis

Ali Oskooei (1)[°], Jannis Born (2)[°], Matteo Manica (3)[°], Vigneshwari Subramanian (4), Julio Sáez-Rodríguez (4), María Rodríguez Martínez (5)^{*}
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(5) IBM Research

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**Computational Biology
Cancer Biology**

Machine learning-based mining of ERK and AKT biosensor time-series reveals new signatures of oncogenic signaling

Jacques, Marc-Antoine

Marc-Antoine Jacques (1), Paolo Gagliardi (1), Maciej Dobrzynski (1), Olivier Pertz (1)
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**Computational Biology
Molecular and Cellular Biosciences**

Characterization of two newly identified nuclear encoded mitochondrial proteins

Mary, Camille

Camille Mary (1)*, Paula Duek Roggli (2), Insaf Fkih M'Hamed (1), Amos Bairoch (1), Lydie Lane (2)*
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**Drug Discovery
Chemical Biology**

High-throughput drug screening with advanced cell-based assays

Booij, Tijmen

Tijmen Booij (1), David Keller (1), Christian Hirt (2), Doreen Taube (2), Gerald Schwank (2), Christian Stirnimann (1)*
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Drug Discovery

Targeting STING with covalent small-molecule inhibitors

Haag, Simone

Simone M. Haag (1)°, Muhammad F. Gulen (2)°, Luc Reymond (3), Antoine Gibelin (3), Laurence Abrami (2), Alexiane Decout (2), Michael Heymann (2), F. Gisou van der Goot (2), Gerardo Turcatti (3), Rayk Behrendt (4), Andrea Ablasser (2)*
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**Genetics
Molecular and Cellular Biosciences**

Uncovering the interplay between the growth-promoting transcription factor Sfp1 and the stress-responsive transcriptional activator Msn2

Dilg, Daniel

Daniel Dilg (1), Benjamin Albert (1), Maria Jessica Bruzzone (1), David Shore (1)*
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**Genetics
Molecular and Cellular Biosciences**

A fast and reliable method for detecting base editing

Hampe, Cornelia

Cornelia Hampe (1) , Montse Morell (2), Tatiana Garachtchenko (2) , Patrick Martin

(2) , Baz Smith (2) , Michael Haugwitz (2) , and Andrew Farmer (2) *

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Genetics

Molecular and Cellular Biosciences

Regulation of RNA polymerases by the checkpoint kinase Mec1 (ATR)

Hurst, Verena

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(2) Lunenfeld-Tanenbaum Institute

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Genetics

Higher-order Suppression Interactions in Yeast

Lopes, Andreia

Andreia Lopes (1), Jolanda van Leeuwen (1)

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Genetics

Drug Discovery

Functional mapping of yeast genomes by saturated transposition: SATAY, a powerful tool for the yeast geneticist.

Michel, Agnes

Agnès Michel (1), Riko Hatakeyama (2), Philipp Kimmig (1), Sabine van Schie (1), Meret Arter (1), Matthias Peter (1), Joao

Matos (1), Claudio de Virgilio (2), Benoît Kornmann (1)

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Infectious Diseases

Virology

Towards Understanding Persistent Human Adenovirus Infections

Sequeira, Daniela

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Microbiology

Systems Biology

Single cell analysis of the filamentous growth pathway in *Saccharomyces cerevisiae*

Jager, Nienke

Nienke Jager (1), Serge Pelet (1)*

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Microbiology

Infectious Diseases

Improved targeting of intracellular and drug-resistant *Staphylococcus aureus* by fusion of peptidoglycan hydrolases to cell-penetrating peptides

Röhrig, Christian

Christian Röhrig (1), Dominique Lorgé (1)^o, Samuel Luterbacher (1), Preeda

Phothaworn (2)^o, Christopher Schefer (1)^o, Nadja Leimer (3)^o, Anna Sobieraj (1)^o, Léa Zinsli (1)^o, Fritz Eichenseher (1)^o, Yang Shen (1)^o, Sunee Korbrisate (2)^o, Annelies S. Zinkernagel (3)^o, Martin J. Loessner (1)^o, Mathias Schmelcher (1)*

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Microbiology Biochemistry

Bacteriophage predation selects for non-virulence in *Listeria monocytogenes*

Sumrall, Eric

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Molecular and Cellular Biosciences

Cytoplasmic PLK-1 foci: a way to regulate PLK-1 function?

Abbatemarco, Simona

Simona Abbatemarco (1)^o, Luca Cirillo (1)^o, Françoise Schwager (1), Monica Gotta (1)*
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Molecular and Cellular Biosciences Physiology

Posttranslational control of integrins and integrin-mediated cell adhesions

Bachmann, Michael

Michael Bachmann (1)^o, Kenza Fouad (1)^o, Marta Ripamonti (1)^o, Bernhard Wehrle-Haller (1)*

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Molecular and Cellular Biosciences Genetics

Function of glutamylation of α -tubulin in regulating RNA transport, and development of the ovary in *Drosophila*.

Bao, Mengjing

Mengjing Bao (1), Ruth Dörig (1), Dirk Beuchle (1), Vazquez Pianzola Maria Paula (1), Beat Suter (1)

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Molecular and Cellular Biosciences Physiology

The effects of astrocyte HIF-1 induction on endothelial cell quiescence and metabolism at the blood-brain barrier.

Baumann, Julia

Julia Baumann (1), Sheng-Fu Huang (1), Omolara O. Ogunshola (1)



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52 Molecular and Cellular Biosciences

Cell fate regulation of spindle assembly

Bondaz, Alexandra

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53 Molecular and Cellular Biosciences

Prolonged L3 phase in β -PheRS mutants

Brunssen, Dominique

Dominique Brunßen (1), Manh Tin Ho (1), Jiongming Lu (2), Beat Suter (1)*
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54 Molecular and Cellular Biosciences Genetics

Local inhibition of PRC2 activity by H3.3K27M drives DNA replication defects through the JNK pathway.

Delaney, Kamila

Kamila Delaney (1), Maude Strobino (1)^o, Joanna Wenda (1)^o, Florian Steiner (1)*
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55 Molecular and Cellular Biosciences Infectious Diseases

Adenovirus protein V – A key factor for capsid stability and genome release

Gomez, Alfonso

Alfonso Gomez (1), Michael Bauer (1), Silvio Hemmi (1), Urs Greber (1)
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56 Molecular and Cellular Biosciences

What is the role of WDR62 in mitosis?

Guerreiro, Amanda

Amanda Guerreiro (1), Patrick Meraldi (1)*
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57 Molecular and Cellular Biosciences Biochemistry

Regulation of mRNA export *in vivo* by the DEAD-box ATPase Dbp5

Heinrich, Stephanie

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Molecular and Cellular Biosciences

Noncanonical functions of Phenylalanyl tRNA synthetase

Ho, Manh Tin

Tin Manh Ho (1), Dominique Brunssen (1), Jiongming Lu (2), Beat Suter (1)*
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**Molecular and Cellular Biosciences
Biochemistry**

Targeting blood-brain barrier impairment as a therapeutic strategy: Glutathione crosstalk between astrocytes and endothelial cells

Huang, Sheng-fu

Sheng-Fu Huang (1), Sabrina Engelhardt (1)°, Omolara O. Ogunshola (1)*
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**Molecular and Cellular Biosciences
Genetics**

Fine molecular mechanism of gene repression by antisense non coding transcription

Kaur, Jatinder

Jatinder Kaur Gill (1), Julien Soudet (1), Françoise Stutz (1)*
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**Molecular and Cellular Biosciences
Genetics**

Targeting Principles of Drosophila Dosage Compensation revealed by reconstitution in mammalian cells

Keller Valsecchi, Claudia

Claudia Isabelle Keller Valsecchi (1), M. Felicia Basilicata (1)°, Plamen Georgiev (1)°, Alina Gaub (1)°, Giuseppe Semplicio (1)°, Pouria Dasmeh (1)°, Janine Seyfferth (1)°, Asifa Akhtar (1)*
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**Molecular and Cellular Biosciences
Proteomics**

Using neXtProt and other bioinformatics resources to identify human uncharacterized proteins potentially involved in male reproduction

Duek, Paula

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**Molecular and Cellular Biosciences
Genetics**

Conserved microbial restriction factors in Dictyostelium discoideum cell-autonomous immunity

Raykov, Lyudmil

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**Molecular and Cellular Biosciences
Genetics**

LSL-1, a potential new regulator of germ line development in C. elegans

Rodriguez Crespo, David

David Rodriguez-Crespo (1), Sabine Caloz (1), Véronique Charriere (1), Chantal Wicky (1)*
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Molecular and Cellular Biosciences

One sperm for all – a novel experimental strategy opens new horizons in epigenetic inheritance

Roszkowski, Martin

Martin Roszkowski (1), Irina Lazar-Contes (1), Niharika Gaur (1), Francesca Manuella (1), Dalila Korkmaz (2), Mark Ormiston (2), Johannes Vom Berg (2), Isabelle Mansuy (1), Johannes Bohacek (3)*
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**Molecular and Cellular Biosciences
Drug Discovery**

S100A4, a key player in plaque stabilization?

Sakic, Antonija

Antonija Sakic (1), Noona Ambartsumian (2), Jörg Klingelhöfer (2), Brenda Kwak (1), Mariam Grigorian (2), Marie-Luce Bochaton-Piallat (1)*
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Molecular and Cellular Biosciences

Characterization of PLEKHA5 and PLEKHA6 as new interactors of the junctional adaptor protein PDZD11

Sluysmans, Sophie

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**Molecular and Cellular Biosciences
Physiology**

Possible role of TRPM4 in calcium-mediated exocytosis in colorectal cancer cell line HCT116

Stoklosa, Paulina

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**Molecular and Cellular Biosciences
Neuroscience**

The Blood-Brain Barrier as a stroke treatment: Pericyte-mediated HIF-1 signaling regulates barrier function and outcome

Tsao, Chih-Chieh

Chih-Chieh Tsao (1), Omolara Ogunshola (1)*, Yurena Garcia (1)°, Nicole Kachappilly (1)°
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**Molecular and Cellular Biosciences
Apoptosis**

Myosin 1b regulates insulin-induced Akt/PKB activation through nuclear PTEN

Xiong, Yuyan

Yuyan Xiong (1), Diogo Ladeiras (1), Zhihong Yang (1), Xiu-Fen Ming (1)
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**Neuroscience
Molecular and Cellular Biosciences**

Characterization of Drosophila melanogaster larval nervous system at single-cell resolution

Brunet Avalos, Clarisse

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**Neuroscience
Molecular and Cellular Biosciences**

Determinants of CMK-1 subcellular localization in C. elegans nociceptor neurons: analysis of a key sensory adaptation mechanism

Ippolito, Domenica

Domenica Ippolito (1)°, Lola Hostettler (1)°, Dominique Glauser (1)*
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**Neuroscience
Stem Cells**

Profiling of Germ Stem Cells Epigenome in a Mouse Model of Epigenetic Inheritance

Lazar, Irina

Irina Lazar-Contes (1), Pierre-Luc Germain (1), Deepak Tanwar (1), Martin Roszkowski (1), Gretchen van Steenwyk (1), Isabelle Mansuy (1)*
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**Neuroscience
Pharmacology**

Non-invasive volumetric mapping of amyloid pathology in the whole mouse brain by non-invasive photoacoustic tomography

Ni, Ruiqing

Ruiqing Ni (1), Daniel Kirschenbaum (2), Fabian Voigt (3), Markus Vaas (1), Alessia Villios (4), Fritjof Helmchen (3), Paolo

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Neuroscience Biochemistry

Effect of light on per1 expression in the perihabenular region and mood related disorders

Olejniczak, Iwona

Iwona Olejniczak (1), Urs Albrecht (1)*
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Neuroscience Genetics

Dissecting calcium transient mechanisms in a C. elegans thermal nociceptor

Saro, Gabriella

Gabriella Saro (1), Filipe Marques (1), Karl Emanuel Busch (2), Dominique Glauser (1)*
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Neuroscience Molecular and Cellular Biosciences

Tuning neuronal translation: a selective program for ribosome homeostasis

Singh, Meha

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Neuroscience Genetics

Sleep characteristics and glymphatic system changes driven by circadian clock gene Per2

Wendrich, Katrin

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Pharmacology

Altered neutrophil cell death modulation and anti-carbohydrate repertoire of modified IVIg

Graeter, Stefanie

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Pharmacology Cancer Biology

Glycan-Checkpoint Inhibitor unleashing CD8+ T cells against Cancer

Haas, Quentin

Quentin Haas (1), Kayluz Frias Boligan (1), Camilla Jandus (2), Christoph Schneider (1), Cedric Simillion (3), Michal Stanczak (4), Monika Haubitz (5), Morteza Jafari (6), Alfred Zippelius (4), Gabriela Baerlocher (5), Heinz Läubli (7), Robert Hunger (6), Pedro Romero (8), Hans-Uwe Simon (9), Stephan von Gunten (9)*

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Pharmacology Drug Discovery

Tamoxifen for treating fatal muscular dystrophies: an unexpected facet of a top-selling anticancer drug

Dorchies, Olivier

Olivier Dorchies (1)°, Elinam Gayi (1)°, Laurence Neff (1)°, Hesham Ismail (1)°, Marta Sierra (1)°, Xenia Massana-munoz (2)°, Thomas Mercier (3)°, Laurent Decosterd (3)°, Jocelyn Laporte (2)°, Belinda Cowling (2)°, Dirk Fischer (4)°, Leonardo Scapozza (1)*

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Pharmacology Drug Discovery

Renal effects of FOR011A and FOR811A ruthenium complexes on isolated kidney perfusion model

Fernandes de Souza, João Paulo

João Paulo Fernandes de Souza (1), Natacha Tereza Queiros Alves (1)°, Antonio Rafael Coelho Jorge (1)°, Pedro Henrique Sá Costa (1), João Alison de Moraes Silveira (1)°, Paula Letícia Braga E Silva (1)°, Francisco Assis Nogueira Júnior (1)°, Aline Diogo Marinho (1)°, Luiz Gonzaga de França Lopes (1)°, Florêncio Sousa Gouveia Júnior (1)°, Roberta Jeane Bezerra Jorge (1)°, Helena Serra Azul Monteiro (1)*

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Pharmacology Cancer Biology

A combinatorial drug screen for novel therapeutic approaches against ER α -positive breast cancer and endocrine resistance

Hany, Dina

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Pharmacology Microbiology 3R principles

Disentangling host and microbiome contributions to drug pharmacokinetics and toxicity

Zimmermann-Kogadeeva, Maria

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Physiology Neuroscience

Amylin's action on CGRP and DBH neurons in the lateral parabrachial nucleus

Boccia, Lavinia

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Physiology

Study of the role of SOCE during *in vitro* maturation of human primary myofibers

Brunetti, Jessica

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Physiology Molecular and Cellular Biosciences

From worms to humans and from proteins to organism: the role of UBAP2L in cell division and RNA translation

Cirillo, Luca

Luca Cirillo (1), Simona Abbatemarco (1)^o, Adeline Cieren (1), Françoise Schwager (1), Monica Gotta (1)
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**Physiology
Pharmacology**

**Amylin Signalling in POMC
Neurons Controls Energy
Metabolism and Activity**

Coester, Bernd

Bernd Coester (1), Thomas A. Lutz (1),
Christelle Le Foll (1)

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Veterinary Physiology

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Physiology

**The two STIM1 splice variants,
STIM1 and STIM1 long, engage
differently TRPC1 in store-
operated calcium entry.**

Dyrda, Agnieszka

Agnieszka Dyrda (1), Maud Frieden (1)*
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Cell Physiology and Metabolism

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**Physiology
Systems Biology**

**Morphological and CT-based
functional investigation of the
glenohumeral joint in human body
donors**

Eppler, Elisabeth

Marc Kissling (1), Nabil Serrano (2)°, Patrick
Grüninger (3)°, Paolo Fonaciari (4)°,
Hannah Krafft (1)°, Karl Link (5)°, Marco
Burkhard (3)°, Samy Bouaicha (4)°, Florian
M. Buck (6)°, Dominic Gascho (7)°, Michael
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Institute

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Forensic Medicine

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Department of Neuroradiology

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**Physiology
Cardiovascular Biology**

**Arginase-II promotes pre-
adipocyte to release IL-6 through
p38mapk leading to vascular
endothelial inflammation in aging**

Huang, Ji

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Department of Endocrinology, Metabolism,
and Cardiovascular System, Faculty of
Science and Medicine, University of
Fribourg

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Physiology

**Role of phosphatidylinositol
transfer proteins in Ca²⁺-
signalling at ER-phagosome
contact sites**

Kaba, Mayis

Mayis Kaba (1), Paula Nunes-Hasler (1),
Nicolas Demaurex (1)*

(1) University of Geneva, Cell Physiology
and Metabolism

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**Physiology
Neuroscience**

**Sensory coding of taste in
Drosophila larva**

Neagu Maier, Larisa

G. Larisa Neagu-Maier (1), Felix Meyenhofer (1), Wanze Chen (2), Marjan Biocanin (2), Johannes Bues (2), Bart Deplancke (2), Simon G. Sprecher (1)*
(1) University of Fribourg, Department of Biology
(2) EPFL and Swiss Institute of Bioinformatics, Laboratory of Systems Biology and Genetics

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**Physiology
Molecular and Cellular Biosciences**

**Phosphorylation of intestinal
amino acid transporter LAT4 is
under food-entrained circadian
control and responds to dietary
protein content**

Oparija, Lalita

Lalita Oparija (1), Anuradha Rajendran (1), Nadège Poncet (1), François Verrey (1)*
(1) University of Zurich, Institute of Physiology and Zurich Center for Integrative Human Physiology (ZIHP)

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Physiology

**Role of neutral amino acid
transporter LAT4 in mouse
epithelia**

Rajendran, Anuradha

Anuradha Rajendran (1), Nadège Poncet (1), Lalita Oparija (1), Brigitte Herzog (1), François Verrey (1)*
(1) University of Zurich

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**Proteomics
Cancer Biology**

**Quantitative interactomics in
primary T cells provides a
rationale for concomitant PD-1
and BTLA coinhibitor blockade in
cancer immunotherapy**

Blattmann, Peter

Javier Celis-Gutierrez (1)^o, Peter Blattmann (2)^o, Yunhao Zhai (1)^o, Nicolas Jarmuzynski (1), Kilian Ruminski (1), Claude Grégoire (1), Youcef Ounoughene (1), Frédéric Fiore (3), Ruedi Aebersold (2)*, Romain Roncagalli (1)*, Matthias Gstaiger (2)*, Bernard Malissen (1)*
(1) CNRS Marseille, Centre d'Immunologie
(2) ETH Zurich, Biology
(3) CNRS Marseille, Centre d'Immunophénomique

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**Proteomics
Structural Biology**

**From genotype to phenotype:
exploring the effect of genetic
variation on protein structure and
function**

Cappelletti, Valentina

Valentina Cappelletti (1), Christian Dörig (1), Chiara Auwerx (1), Jan Grossbach (2), Andreas Beyer (2), Paola Picotti (1)*
(1) ETH, Institute of Molecular Systems Biology
(2) University of Cologne, CECAD

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**Proteomics
Systems Biology**

**Exploring the uncharacterized
human proteome**

Duek Roggli, Paula

Paula Duek Roggli (1)°, Alain Gateau (1)°, Amos Bairoch (2)°, Lydie Lane (2)*
 (1) SIB Swiss Institute of Bioinformatics, CALIPHO group
 (2) SIB Swiss Institute of Bioinformatics, CALIPHO group, Faculty of Medicine University of Geneva, Dept of Microbiology and Molecular Medicine

99**Proteomics
Stem Cells****Insights into X-chromosome inactivation using quantitative mass spectrometry****Fossati, Andrea**

Andrea Fossati (1,2), Fabian Frommelt (1), Federico Uliana (1), Ruedi Aebersold (1), Matthias Gstaiger (1), Anton Wutz (2)*
 (1) Institute of Molecular System Biology, D- Biol
 (2) Institute of Molecular Health Science, D-Biol

100**Proteomics
Cardiovascular Biology****Associating HDL proteotype with clinical HDL particle signaling capacity****Frey, Kathrin**

Kathrin Frey (1), Sandra Goetze (1)°, Damaris Bausch-Fluck (1)°, Srividya Velagapudi (2)°, Lucia Rohrer (2)°, Arnold von Eckardstein (2)°, Bernd Wollscheid (1)*
 (1) ETH Zürich, Institute of Molecular Systems Biology & Department of Health Sciences and Technology
 (2) University and University Hospital of Zurich, Institute of Clinical Chemistry

101**Proteomics
Systems Biology****Measuring protein functional states in central carbon metabolism using a structural proteomics approach****Hauser, Thomas**

Thomas Hauser (1), Paola Picotti (1)*
 (1) ETH Zürich, d-biol

102**Proteomics
Neuroscience****Probing the structural landscape of alpha synuclein in cells and tissues****Malinovska, Liliana**

Liliana Malinovska (1), Yuehan Feng (1), Estermann Alexandra (1), Paola Picotti (1)*
 (1) ETH Zurich, D-BIOL, IMSB

102B**Proteomics****Proteomic Profiling of >1500 Plasma Samples of the Weight Loss and Maintenance Study DiOGenes Using Single Shot DIA****Nikolovski, Nino**

Roland M. Bruderer (1), Jan Muntel (1), Sebastian Müller(1), Oliver M. Bernhardt (1), Tejas Gandhi (1), Nino Nikolovski (1), Polina Mironova (2), Ondine Walter (2), Jérôme Carayol (2), Arne Astrup (3), Wim H.M. Saris (4), Jörg Hager (2), Armand Valsesia (2), Loïc Dayon (2), and Lukas Reiter (1)
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 (2) Nestlé Institute of Health Sciences, Lausanne, Switzerland



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(4) NUTRIM, School for Nutrition, Toxicology and Metabolism, Department of Human Biology, Maastricht University Medical Centre, Maastricht, The Netherlands

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Proteomics, Biochemistry

Identification of novel ADP-ribosylated proteins using an engineered Af1521 macrodomain with enhanced ADP-ribose binding capacity

Nowak, Kathrin

Kathrin Nowak (1), Florian Rosenthal (1), Deena Leslie Pedrioli (1), Kapila Gunasekera (1), Michael Hottiger (1)*
(1) UZH, DMMD

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Proteomics, Structural Biology

Effect of osmolytes on protein thermal stability

Pepelnjak, Monika

Monika Pepelnjak (1), Paola Picotti (2)*, Ilaria Piazza (2)
(1) ETH Zurich, Department of Biology, IMSB
(2) ETH Zurich, Department of Biology, IMSB

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Proteomics, Biochemistry

Development of fully automated pipeline for phosphoproteome profiling

Stoychev, Stoyan

Stoyan Stoychev (1)*, Previn Naicker (1)°, Ireshyn Govender (1)°, Isak Gerber (1)°, Justin Jordaan (2)
(1) CSIR, Biosciences
(2) Resyn Biosciences

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Proteomics, Systems Biology

Dissection of YAP1 proteoforms and interactions

Uliana, Federico

Federico Uliana (1), Ciuffa Rodolfo (1), Fossati Andrea (1), Mehnert Martin (1), Frommelt Fabian (1), Aebersold Reudi (1), Gstaiger Matthias (1)
(1) Institute of Molecular System Biology, D-BIOL

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Stem Cells, Cardiovascular Biology

Bone Marrow-Derived Cells based modulation of macrophages and cardiomyocytes for Heart regeneration

Borrego, Inês

Inês Borrego (1), Aurélien Frobert (1), Jérémy Valentin (1), Guillaume Ajalbert (1), Stéphane Cook (1), Marie-Noelle Giraud (1)
(1) University of Fribourg, Department of Medicine

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Stem Cells, Biophysics

Soft substrates promote maintenance and acquisition of naive pluripotency in embryonic stem cells

Labouesse, Celine

Céline Labouesse (1), Chibeza Agley (1), Bao Xiu Tan (1), Giuliano Stirparo (1), Hannah Stuart (2), Moritz Hofer (1), Christophe Verstreken (3), William



Mansfield (1), Kristian Franze (4), Paul Bertone (1), Jose Silva (2), Kevin Chalut (3)
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(2) University of Cambridge, Stem Cell Institute & Department of Biochemistry
(3) University of Cambridge, Stem Cell Institute & Department of Physics
(4) University of Cambridge, Department of Physiology, Development and Neuroscience

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Stem Cells **Molecular and Cellular Biosciences**

Cdk8 is critical for efficient PRC2 recruitment and gene repression by Xist and essential for mouse development

Postlmayr, Andreas

Andreas Postlmayr (1), Anton Wutz (1)*
(1) ETH, DBIOL

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Stem Cells, Neuroscience

Defining the transcriptional network that governs human neural crest stem cell specification into Schwann cell precursors

Ramos Calçada, Raquel Maria

Raquel R. Calçada (1), Sandra Varum (1), Elisa Marzorati (1), Lukas Sommer (1)*
(1) University of Zurich, Institute of Anatomy, Stem Cell Biology

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Stem Cells, Systems Biology

SARA endosomes and microtubules asymmetry during asymmetric cell division in zebrafish spinal cord

Richard, Clément

Clément Richard (1), Marcos Gonzalez-Gaitan (1)*, Irinka Castanon (1), Carole Seum (1)
(1) University of Geneva, Biochemistry

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Stem Cells **Physiology**

Determination of the quiescence/activation mechanisms of muscle stem cells

Tollance, Axel

Axel Tollance (1), Stéphane König (2), Maud Frieden (1)*
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(2) University of Geneva, Department of Cell Physiology and Metabolism, Department of Basic Neurosciences

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Structural Biology **Computational Biology**

Architecture and evolution of blade assembly in β -propeller lectins

Bonnardel, François

François Bonnardel (1), Atul Kumar (2), Michaela Wimmerova (3), Martina Lahmann (4), Serge Perez (5), Annabelle Varrot (1), Frédérique Lisacek (6), Anne Imberty (1)
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(6) Swiss Institute of Bioinformatics, Geneva. Computer Science Department, UniGe. Section of Biology, UniGe, Switzerland

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Structural Biology, Proteomics

Quantitative structural biology of endogenous protein complexes

Faini, Marco

Marco Faini (1), Emanuela Milani (2), Charlotte Nicod (1), Alexander Leitner (1), Ludovic Gillet (1), Michael Ewing (1), Audrey Van Drogen (1), Bernd Wollscheid (2), Ruedi Aebersold (1)
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(2) ETH Zurich, D-HEST

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Structural Biology, Proteomics

Structural analysis of protein–RNA complexes using crosslinking of segmentally isotope-labeled RNA and tandem mass spectrometry (CLIR-MS/MS)

Leitner, Alexander

Alexander Leitner (1), Georg Dorn (2)°, Julien Boudet (2)°, Sébastien Campagne (2)°, Christine von Schroetter (2)°, Ahmed Moursy (2)°, Chris Sarnowski (1)°, Tebbe de Vries (2)°, Ruedi Aebersold (1)°, Frédéric Allain (2)*
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(2) ETH Zurich, D-BIOL, Institute of Molecular Biology and Biophysics

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Structural Biology, Proteomics

Applying CLIR-MS to deliver

structural insights into the nature of protein-RNA interactions

Sarnowski, Christopher

Chris Sarnowski (1), Tebbe de Vries (2)°, Anna Knörlein (3)°, Michael Götz (1)°, Frederic Ht Allain (2)°, Jonathan Hall (3)°, Alexander Leitner (1)*
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(2) ETH Zurich, Department of Biology, Institute of Molecular Biology and Biophysics
(3) ETH Zurich, Department of Chemistry and Applied Biosciences, Institute of Pharmaceutical Sciences

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Structural Biology, Biophysics

The CXCL12/HMGB1 heterocomplex from biophysical studies to drug design

Sgrignani, Jacopo

Jacopo Sgrignani (1), Enrico Fassi (1), Gianluca D'Agostino (1), Valentina Cecchinato (1), Maura Garofalo (1), Giovanni Grazioso (2), Mariagrazia Uguccioni (1), Andrea Cavalli (1)*
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(2) bDipartimento di Scienze Farmaceutiche, Università degli Studi di Milano, Milan, Italy

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Structural Biology, Proteomics

Feasibility of succinimidyl-based cross-linking at slightly acidic conditions

Trabjerg, Esben

Esben Trabjerg (1), Alexander Leitner (1)*
(1) ETH Zurich, Institute of Molecular Systems Biology, Department of Biology

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Systems Biology

Modeling CLiMP-63 spatio-temporal distribution and its interplay with Post-translational modification

Denhardt-Eriksson, Robin

Robin Denhardt-Eriksson (1), Patrick Sandoz (2), Laurence Abrami (2), Sylvia Ho (2), Béatrix Kunz (2), Françoise Gisou Van der Goot (2), Vassily Hatzimanikatis (1)
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Systems Biology, Comp. Biology

Cross-Linking/Mass Spectrometry for Proteome-Wide Interactome studies: Protein Interaction Landscape in Drosophila Embryos

Götze, Michael

Michael Götze (1)°, Claudio Iacobucci (2)°, Christian Ihling (2), Elmar Wahle (3), Andrea Sinz (2)*
(1) ETH Zürich, IMSB
(2) University of Halle, Institute of Pharmacy
(3) University of Halle, Institute of Biochemistry

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Systems Biology, Proteomics

Comparison of proximity-labeling biotin ligases to discover the proteome composition of chromatin loci in mouse embryonic stem cells

Pfändler, Ramon

Ramon Pfändler (1), Rodrigo Villaseñor (1), Joel Wirz (1), Bernd Roschitzki (2), Tuncay Baubec (1)*
(1) University of Zurich, Department of Molecular Mechanisms of Disease
(2) Functional Genomics Center Zurich

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Systems Biology

Systematic identification of drug targets with structural profiling of the proteome

Piazza, Ilaria

Ilaria Piazza (1), Nigel Beaton (2)°, Roland Bruderer (2)°, Lukas Reiter (2)°, Paola Picotti (1)*
(1) Institute for Molecular Systems Biology, ETH Zurich, Zurich, Switzerland.
(2) Biognosys AG, Schlieren, Switzerland

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Systems Biology. Comp. Biology

Multivariate Control of Transcript to Protein Variability in Single Mammalian Cells

Popovic, Doris

Doris Popovic (1)°, Jan Ellenberg (2)°, Lucas Pelkmans (1)*
(1) University of Zurich, Department of Molecular Life Sciences
(2) EMBL Heidelberg

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**Systems Biology
Microbiology, Infectious Diseases**

Lung-on-a-chip microtechnologies for studies of host-pathogen interactions in Tuberculosis

Thacker, Vivek



Vivek V Thacker (1), Riccardo Barrile (2),
Katia Karalis (2), and John D McKinney (1)
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Switzerland
(2) Emulate Inc, Boston, USA

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Systems Biology, Proteomics

**Proximity biotinylation labeling
with engineered chromatin
readers reveals the proteome
composition of key chromatin
states in mouse embryonic stem
cells**

Villaseñor, Rodrigo

Rodrigo Villaseñor (1), Ramon Pfaendler
(1), Christian Feller (2), Joel Wirz (1), Ruedi
Aebersold (2), Tuncay Baubec (1)*
(1) University of Zurich, Department of
Molecular Mechanisms of Disease
(2) ETH Zurich

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Systems Biology, Microbiology

**Single promoter transcription
dynamics reveal bursting kinetic
chromatin regulation of
osmopressure genes expression**

Wosika, Victoria

Victoria Wosika (1), Serge Pelet (1)*
(1) University of Lausanne, Department of
Fundamental Microbiology (DMF)

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Virology, Microbiology

**The Role of Ceramide at Late
Stages of Adenovirus Infection**

Olszewski, Dominik

Dominik M. Olszewski (1), Itzel Shantal
Martínez López (1), Maarit Suomalainen

(1), Lukas B. Tanner (2), Markus R. Wenk
(2), Urs F. Greber (1)*

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University of Zurich
(2) Department of Biochemistry, National
University of Singapore

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Virology, Molecular & Cellular Biosciences

**Towards the biological
mechanisms underlying
Adenovirus-induced cell lysis**

Petkidis, Anthony

Anthony Petkidis (1), Vardan Andriasyan
(1), Urs F Greber (1)*
(1) UZH, Department of Molecular Life
Sciences, Greber Lab

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Virology, Infectious Diseases

**Human Rhinovirus infection, how
and why to study it?**

Volle, Romain

Romain Volle (1), Robert Witte (1), Luca
Murer (1), Daria Seiler (1), Urs F Greber
(1)*
(1) UZH, Department of Molecular Life
Sciences, Greber Lab

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Graduate School University of Bern Schaller, Monica

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SV Postdoc Association, EPFL Glousker, Galina

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Post-doc Association of the University of Geneva Mateus, Rita



Upcoming Events



23-24 May 2019, Eurotel Montreux

"New Trends in Proteomics" Annual Swiss Proteomics Meeting

PLENARY SPEAKERS

Alexey Nesvizhskii
(University of Michigan Medical School, US)

"Applications of Ultrafast Database Searching in Proteomics"

Mikhail Savitski

(EMBL, Heidelberg, DE)

"Protein Stability in Drug Discovery and
Molecular Biology"

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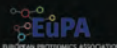
ORAL PRESENTATIONS

BEST PRESENTATION AWARDS

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Please register before 15 March 2019!

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2nd meeting as LS² intersection Cardiovascular Biology

14-15 March 2019

Swiss Integrative Center for Human Health SA
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KEYNOTE SPEAKERS

Peer Kohli (University Heart Center, Freiburg)
Ange Maguy (University of Bern)
Cathy Shanahan (King's College London)
Christophe Scheiermann (CMU Geneva)
Lucas Uldet (CHUV, Lausanne)

Maura Giacca (IGGEB, Trieste)
Kathrin De Bock (ETH Zurich)
Gabriela Kanja (University Hospital Zurich)
Samia Hurst (University of Geneva)

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General deadline: 01.03.2019

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