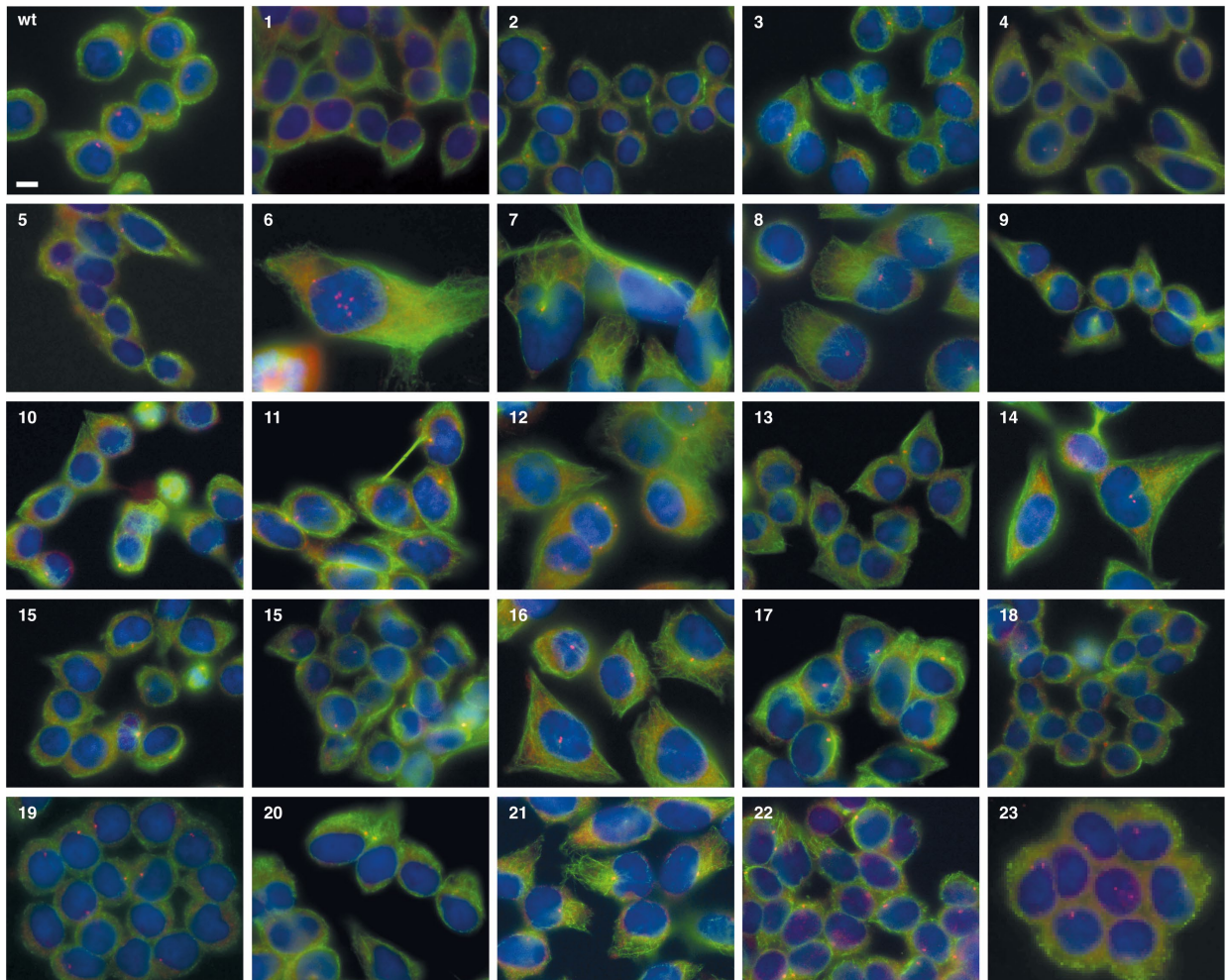


Annual Report GCB 2024

Faculty of Medicine
Faculty of Science
Faculties of Veterinary Medicine (Vetsuisse Faculty)



Screen of knockouts of metabolic enzymes in HAP1 cells; Immunofluorescence: green: microtubuli, red: centrosomes, blue: DNA. Tosca Birbaumer, Leidel lab.

Table of Contents

| | |
|---|-----------|
| Annual Report GCB 2024 | 1 |
| 1. Introduction | 4 |
| 1.1 Letter from the President | 4 |
| 2. Vision & Mission | 5 |
| 2.1 GCB Offices, Mittelstrasse 43, 3012 Bern | 6 |
| 3. Organization | 7 |
| 3.1 Organization Chart | 7 |
| 3.2 PhD & Expert Committee Organization | 7 |
| 3.2.1 2024 Expert committee membership changes | 8 |
| 3.3 Mentor Guidelines | 9 |
| 3.4 In Memoriam | 10 |
| 3.4.1 Andrea Huwyler | 10 |
| 3.4.2 Yitzhak Zimmer | 10 |
| 4. PhD Program | 10 |
| 4.1 PhD Program Structure | 11 |
| 4.2 PhD & DVM Curriculum | 11 |
| 4.3 MD, PhD Program & Curriculum | 12 |
| 4.3.1 MD-PhD Fellowships | 12 |
| 4.4 PhD Specializations | 13 |
| 4.4.1 Cell Migration | 13 |
| 4.4.2 Cutting Edge Microscopy (CEM) | 13 |
| 4.4.3 Stem Cells and Regenerative Medicine (SCRM) | 13 |
| 4.4.4 Tumor Biology | 14 |
| 4.4.5 Cardiovascular Research PhD Program | 14 |
| 4.4.6 Neuroscience PhD Program | 15 |
| 4.4.7 Precision Medicine | 15 |
| 5. Courses & Seminars | 16 |
| 5.1 Individual Study Program | 16 |
| 5.2 Lectures, Tutorials, Book Clubs, Practicals | 16 |
| 5.3 Transferable Skills Courses | 16 |
| 5.4 GCB Seminars, Summer School, and Retreats | 17 |
| 5.4.1 PhD Specialization in Cardiovascular Research: Swiss-wide Cardiovascular Student Retreat 2024 | 17 |
| 5.4.3 11th SCRM PhD Students Retreat | 18 |
| 5.4.4 International Summer School 2024, Institute of Pharmacology, University of Bern | 19 |
| 6. GCB Academic Events | 20 |
| 6.1 Annual Symposium | 20 |
| 6.1.1 Keynote Address | 24 |
| 6.1.2 Post-Event Survey Feedback | 25 |
| 6.2 Graduations | 29 |
| 6.2.3 Thesis Defense Photos | 29 |
| 6.2.4 Graduations Photos | 30 |
| 6.2.5 Graduates | 32 |
| 6.3 Student Awards & Recognitions | 43 |
| 6.3.1 Best 2023 theses, awarded at GCB Symposium 2024 | 43 |
| 6.3.2 Student Awards 2024 | 47 |
| 6.3.3 New Award Announced in 2023 | 49 |
| 7. Facts and Figures | 51 |
| 7.1 Highlights 2024 Graduates | 51 |
| 7.1.1 Graduations by Expert Committee 2024 Graduates | 52 |

u^b

| | | |
|-----------|---|-----------|
| 7.1.2 | Degree Titles by Faculty 2024 Graduates | 52 |
| 7.1.3 | Country of Origin 2024 Graduates | 53 |
| 7.2 | Five-Year Figures (2020-2024) | 55 |
| 7.2.1 | Graduates's Gender Distribution | 55 |
| 7.2.2 | Median Years to Graduate | 55 |
| 8. | Digital Presence | 56 |
| 8.1 | Communication and social media | 56 |
| 9. | Acknowledgments | 57 |

u^b

1. Introduction

1.1 Letter from the President

Dear colleagues

2025 is a special year for me, and I am proud to be the current President of the GCB, because 2025 marks the 20th anniversary of this thriving graduate school. The GCB officially opened on September 1, 2005, and it is important to remember how much the GCB has changed the situation for many PhD students in the life sciences. Before the GCB, life science PhD projects at the University of Bern were often carried out without external support or clear responsibilities. Today, each PhD student is supported by a committee consisting of the supervisor, a co-advisor and a mentor to ensure the timely completion of the PhD project. In addition, an independent external referee evaluates the thesis. These mandatory requirements put all students in a more comfortable position. I have to say that although all these safety nets are in place, they are rarely used. In the vast majority of cases, the transparency of the rules prevents problems before they arise. I wish students in all disciplines had access to such a well-designed system.

However, it is the PhD students who are at the heart of the program. It is your courage, imagination and perseverance that make new insights and discoveries possible. Without you, science and progress in the life sciences would not be the same. As of the end of 2024, the GCB had 549 registered students. Those students had published 119 manuscripts in peer-reviewed journals, published 145 posters in national and international conferences, and garnered three media mentions and 20 research prizes. Throughout 2024, the 142 new applications outpaced the 121 graduations. So, even at age of 20, the GCB continues to grow.

Although it is a happy occasion to look back, I would also like to remember GCB colleagues who passed away unexpectedly in 2024. I had the pleasure to interact with both Prof. Andrea Huwyler and Prof. Yitzhak Zimmer, both of whom will be sorely missed.

Finally, I'd like to point out the immense amount of work and enthusiasm that I encounter from supervisors, mentors and last but not least the GCB staff. Everyone contributes to the success of the program at the different levels. And I can say without hesitation that the GCB is the best Swiss PhD program in the life sciences that I know. However, we should not stop here and become too complacent. Just as scientific progress and discoveries never end, the GCB will have to further evolve. What is important to me is that we continue to raise the scientific profile of our program. Second, I think we can do a better job of building a real community among our students from different departments and institutes. The GCB symposium and the newly introduced welcome events are important steps in this direction. But it will take each and every one of you to make it happen.



Prof. Dr. Sebastian Leidel

President, GCB PhD Committee

2. Vision & Mission

Vision and Mission Statement

u^b

VISION

The GCB provides comprehensive, internationally competitive training in theory and practice of experimental research as well as in-depth specialist knowledge of the individually selected research area. It directs students towards independent scientific work and enables them to assume scientific responsibility.

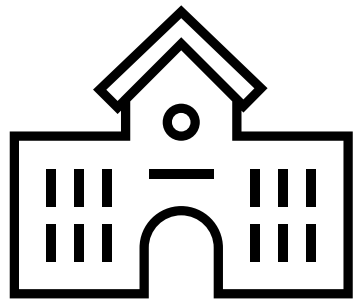
MISSION

The GCB PhD program promotes doctoral program excellence. The graduate school promotes high quality, teaching and training programs combined with rigorous, experimental, translational biomedical research. At the same time, it ensures high standards of integrity and encourages the students to work independently and responsibly while acquiring profound knowledge in selected research areas.

- **Deliver Excellence.** Offer an excellent comprehensive graduate course curriculum that educates students in broad and multidisciplinary areas including the most current biomedical research developments. The graduate school provides opportunities for students to individually tailor their course curriculum to specific needs.
- **Quality and Integrity.** Develop and maintain high quality graduate programs to impart knowledge, foster innovation, and drive creativity while ensuring excellence and integrity in training and research, using state-of-the-art methods in molecular life sciences, biomedical sciences, and biomedical engineering.
- **Preparedness.** Prepare graduates for professional careers and post-doctoral studies by steady presence and strong support from the graduate school across all touchpoints in the student life (including academic and professional), such as mentoring resources for professional career development and self-care that enhances experiences, mental and psychological health, and exposing the student to the social network, culture, and broader practice norms and requirements associated with their selected discipline.
- **Support and Develop.** Provide programs that encourage students coming from other cultures to produce well-trained, skilled, and innovative graduates who are positioned to be successful leaders who will then contribute productively whether here in Switzerland, in their country of origin and on an international level, and whether in academia, industry, government or non-profit organizations.
- Raise the recognition and visibility of the GCB to attract quality students, build networks and connections, and to serve as a conduit to agencies and organizations relevant to all students; prospective, current, or recently graduated.

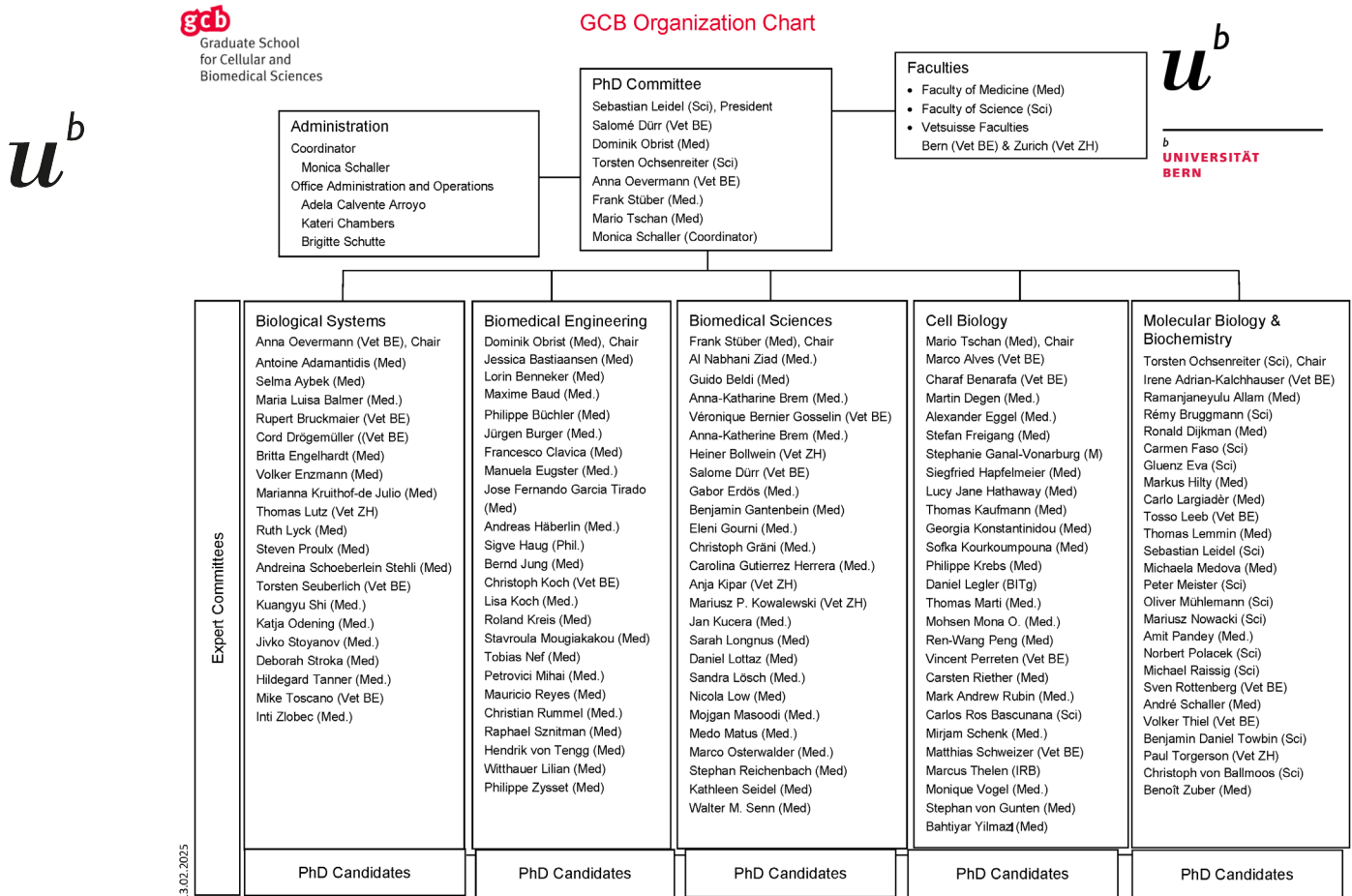
2.1 GCB Offices, Mittelstrasse 43, 3012 Bern

u^b



3. Organization

3.1 Organization Chart



3.2 PhD & Expert Committee Organization

The Graduate School for Cellular and Biomedical Sciences (GCB) of the University of Bern, jointly administered by the Faculties of Medicine, Science and Vetsuisse, offers structured, experimental research training programs leading to the following degree titles:

- PhD in Cell Biology
- PhD in Biochemistry and Molecular Biology
- PhD in Biomedical Sciences
- PhD in Immunology
- PhD in Neurosciences
- PhD in Biomedical Engineering
- PhD in Computational Biology
- MD,PhD (Doctor of Medicine and Philosophy)
- DVM,PhD (Doctor of Veterinary Medicine and Philosophy)
- DDS,PhD (Doctor of Dentistry and Philosophy)

The PhD program provides comprehensive, internationally competitive training in the theory and practice of experimental research as well as in-depth specialist knowledge of students' individually selected research areas. It directs students towards independent scientific work, enabling them to assume scientific responsibility.

Research training is available in the areas of biochemistry and molecular biology, biomedical engineering, biomedical sciences, cell biology, immunology, neuroscience, and epidemiology. GCB applicants possess a master's degree or equivalent in life sciences or related areas; engineering, physics, or computer science; medicine, dentistry, or veterinary medicine.

The GCB is supervised by the PhD Committee (executive committee), comprised of members of the Faculty of Medicine, the Faculty of Science, and the Vetsuisse Faculty Bern, as well as the Program Coordinator. Each faculty member acts as President, alternating every two years.

GCB Expert Committees

Five expert committees with competencies in

- biological systems
- biomedical engineering
- biomedical sciences
- cell biology
- molecular biology and biochemistry

are responsible for the admittance, guidance, and evaluation of the PhD candidates. Each research project is assigned to one of the GCB Expert Committees, with one of its members acting as mentor to the PhD candidate. The supervisor, mentor and student plan the individual training program of the PhD candidate together.

The GCB organization chart showing the expert committee membership in 2024 is shown on the previous page.

3.2.1 2024 Expert committee membership changes

| Biological Systems | Biomedical Engineering | Biomedical Sciences | Cell Biology | Molecular Biology & Biochemistry |
|----------------------------------|------------------------|---------------------|---------------------------|----------------------------------|
| Joined | | | | |
| Cord Droegemueller | Maxime Baud | Sandra Lösch | Sofia Karkampouna | |
| Steven Proulx | Manuela Eugster | Kathleen Seidel | Stephanie Ganal-Vonarburg | |
| Jivko Stoyanov | Lisa Koch | Anna-Katharine Brem | | |
| Maria Luisa Balmer | | Medo Matúš | | |
| | | Gabor Erdös | | |
| Retired or left for other duties | | | | |
| Rupert Bruckmaier | Martin Frenz | Hanno Würbel | | Achim Stocker |
| | | Gertraud Schüpbach | | |

3.3 Mentor Guidelines

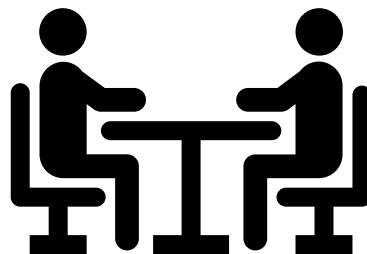
Good supervision is central to the rapid progress of the doctorate and integration into the scientific community. Advice and support must not only be provided by the persons who are responsible as doctoral supervisors. Good supervision also includes a network, which is offered e.g., within the framework of the graduate school, by experienced colleagues and by mentoring. Mentors are experienced GCB PhD supervisors from one of the jointly administering Faculties of Medicine, Science and Vetsuisse.

General duties and responsibilities of the mentor:

- The mentor is the link between the GCB and each student's thesis committee and must therefore always be a member of one of the GCB expert committees. The mentor ensures that the GCB rules are observed. Thus, s/he must be acquainted with the most important rules of the GCB regulations, in particular the points which relate to course requirements (minimal ECTS) and examination regulations.
- Each expert committee member should be prepared to serve as mentor for several PhD students.
- Interview meetings of the GCB expert committees are conducted three times a year to evaluate prospective PhD candidates, often more than one session per application date. The mentor attends the meetings whenever possible.
- A mentor is assigned to each PhD student following the interview.
- The mentor does not require specific expertise in the research project but monitors the progress of the work in relation to the submitted research plan and intervenes if problems arise.
- The mentor is the primary contact for the PhD student and the supervisor if any conflicts arise between them.

Five main responsibilities comprise the GCB mentor role throughout a PhD project:

1. leads the mentor meeting
2. evaluates the annual progress reports
3. chairs the mid-term evaluation
4. chairs the thesis defense
5. mediates if required in case of conflict



Inspire a legacy of excellence
Become a GCB Mentor

● ● MENTOR ● ●

gcb
Graduate School
for Cellular and
Biomedical Sciences

Contact:
PD Dr. Monica Schaller
GCB Coordinator
monicaschaller2@unibe.ch

u^b
UNIVERSITY
OF BERN



3.4 In Memoriam

3.4.1 Andrea Huwyler

A [memorial service](#) organized by her former PhD student Stepanovska Bisera was held at the University on May 13, 2024. Prof. Andrea Huwyler's unexpected loss has left us with a profound emptiness. Throughout her entire scientific career, she was not just a brilliant researcher, but also a mentor, collaborator, and friend. She inspired countless students, guiding them with encouragement, and a steady belief in their potential. Her impact was witnessed by the various presentations during the memorial service, with representatives from all stages of her curriculum.

3.4.2 Yitzhak Zimmer

We were saddened to learn that one of our long-time GCB mentors and colleague Prof. Yitzhak Zimmer, Medical Faculty Bern, tragically passed away after a courageous battle with pancreatic cancer on Sunday June 16, 2024. He was buried in the Jewish cemetery of Bern on June 18, attended by his closest friends, colleagues, lab members and neighbors. We will remember Yitzhak as a member of the Expert Committee Cell Biology and mentor for GCB PhD students; and, as a teacher, a supervisor, co-advisor and friend.

4. PhD Program

The GCB offers structured training in experimental research in the fields of biochemistry, cell and molecular biology, immunology, biomedical sciences, epidemiology, neuroscience, and biomedical engineering, leading to a PhD, MD, PhD, PhD, DDS, or DVM, PhD degree. The thesis projects are carried out at laboratories of the three participating faculties (Faculty of Medicine, Faculty of Science, and Vetsuisse Faculties, Bern, and Zurich) or at affiliated institutions. In 2024, these included:

- Agroscope, Veterinary Physiology, Vetsuisse Faculty
- AO Research Institute, Davos
- Bern University of Applied Sciences
- Biberach university of applied sciences
- Biotechnology Institute Thurgau (BITg)
- Centre for fish and Wildlife Health (FIWI)
- Center for Translational Medicine and Biomedical Entrepreneurship sitem
- Centre for Infectious Disease Research in Zambia
- CK-Care AG Davos
- Institute for Research in Biomedicine (IRB), Bellinzona
- EMPA
- Haute Ecole Arc Ingénierie
- HSLU Institute of Medical Engineering
- Interfaculty Bioinformatics Unit/Laboratory Spiez
- IVI Mittelhäusern
- IRB- Institute of Research in Biomedicine
- Kantonsspital Aarau
- Kantonsspital St. Gallen
- Laboratory for Artificial Intelligence and Translational Theranostics (AITT)
- Lucerne University of Applied Sciences and Arts, institute of Electrical Engineering
- Makerere University
- RMS Foundation
- Schweizer Paraplegiker Zentrum, Radiologie
- Swiss Institute of Equine Medicine, Bern
- Veterinary Public Health Institute (VPH), Liebefeld
- Zahnmedizinische Kliniken - Department of Periodontology

4.1 PhD Program Structure

Each PhD candidate is supervised by a thesis committee consisting of supervisor, co-advisor, and member of the appropriate GCB expert committee, the mentor. The roles are specified as follows:

Supervisor. Hires the student and is responsible for the research project, adequate supervision, the laboratory infrastructure, and the salary of the candidate.

Co-advisor. Should not be affiliated with the same institute as the supervisor but should be an expert in the research area of the thesis project. Meets with the candidate at least twice annually to discuss and assess progress of the thesis work, as well as to advise and support the candidate.

Mentor. Decides on the individual, tailor-made training program together with the candidate and the supervisor, considering the candidate’s previous education and relevance to the planned research work.

External Co-referee. Toward the end of the PhD studies, an additional expert is added to the team, to promote independent evaluation of the thesis and oral defense. No common publication with the supervisor and/or PhD candidate for the last 5 years is a stringent qualification criterion.

4.2 PhD & DVM Curriculum

| | |
|-----|--|
| I | Earn a minimum 6.0 ECTS of scientifically oriented courses, of which at least 3.0 ECTS must be lecture courses or book clubs which include a graded examination. Exams must be passed after a maximum of two attempts, as regulated by the Promotion Regulations, Art. 92 and Art. 191). |
| II | Participate in Scientific Integrity lecture. Annual Progress Reports. |
| III | Pass a mid-term evaluation during the 2nd year – students present their work in a scientific seminar in the presence of their PhD thesis committee, to demonstrate in-depth knowledge of their research field. |
| IV | Attend and participate in the annual GCB Symposium starting with the 2nd year of PhD studies. |
| V | After three, maximum four years, submit written thesis and successfully defend the thesis orally. |



1 Oliver Mühlemann research lab.

4.3 MD,PhD Program & Curriculum



Graduate School for Cellular and Biomedical Sciences (GCB)

Programm MD-PhD



The MD-PhD Program thus consists of basic training (comprising 25 ECTS) and the additional mandatory course work (6 ECTS) in subjects which are suitable for preparing them for their specific research project (cell biology / biochemistry, molecular biology, immunology, neurobiology, tumor biology, etc.), and for the PhD thesis. Comprehensive guidelines are available on the GCB website.

| | |
|-----|--|
| I | Earn a minimum 25 ECTS, some of which may be obtained through previous laboratory work (MD thesis or other, maximum 10 ECTS). Generally, the ECTS can be obtained by participating in approved, project-related, and interdisciplinary courses, workshops, seminars, and lectures. Course work for 6 ECTS (3 ECTS of which come from a course with a graded examination) tailored to the research project in addition to the basic 25 ECTS is mandatory (total 31 ECTS). |
| II | At least 3.0 ECTS must be earned from lecture courses or book clubs which include a graded examination. Exams must be passed after a maximum of two attempts, as regulated by the Promotion regulations, Art. 92 and Art. 191). |
| III | Participate in the course Scientific Integrity course. Annual Progress Reports. |
| IV | Pass a mid-term evaluation during the 2nd year – students present their work in a scientific seminar in the presence of their PhD thesis committee, to demonstrate in-depth knowledge of their research field. |
| V | Attend and participate in the annual GCB Symposium beginning with the 2nd year of PhD studies. |
| VI | After three, maximum four years, submit written thesis and successfully defend the thesis orally. |

A fundamental requirement includes in-depth education in natural science subjects. This basic training consisting of course work of 25 ECTS may be carried out either in parallel to the medical studies during the third to sixth year (Track I), or during the research work for the PhD thesis (Track II). Track I students receive personal mentoring by experienced researchers.

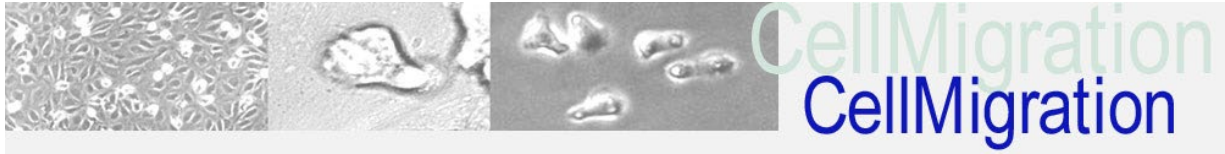
4.3.1 MD-PhD Fellowships

SAMS announced in 2023 the fellowship program would end in 2024.

Fortunately, in 2025 SAMS announced that the fellowship program will be continued, although in a slightly different form. The guidelines will be published on their [website](#). The application deadline is May 15, 2025.

4.4 PhD Specializations

Within the framework of the GCB PhD Program, six PhD specialization programs are offered. Participants acquire ECTS in the specialization which will be listed as a separate achievement on the diploma supplement, thus complementing their PhD degree.



4.4.1 Cell Migration

The PhD Program Cell Migration started as an SNF-supported ProDoc program on October 1st, 2011. It has brought together a growing group of highly innovative and successful Swiss research groups in the field of cell migration in morphogenesis, immunosurveillance, inflammation and cancer. The presently participating institutions with their principal investigators bring together complementary scientific expertise and methodological skillsets in the field of cell migration that permit for embedding a cutting-edge Swiss training program on Cell Migration for highly qualified and motivated PhD and MD-PhD students in the fields of biology, biochemistry, (molecular) human and veterinary medicine, immunology, pharmaceutical sciences, chemistry, physics, bioinformatics and mathematics with a focus on life sciences.

More information on the [Cell Migration website](#):



4.4.2 Cutting Edge Microscopy (CEM)

The main aim of the CEM program is to provide an interdisciplinary training program to PhD students to become first-class experts in biological imaging. Here, the unique and interdisciplinary framework established by the Microscopy Imaging Center (MIC) provides the necessary infrastructure and expert knowledge. The profile of the PhDs at the end of their training is that of a life science researcher with a deep insight into advanced microscopy and image analysis and with the necessary know-how to develop automated image analysis protocols. By providing this complementary training in different disciplines, the Cutting-Edge Microscopy PhD program educates young researchers with the ability to bring innovative approaches to academia and industry, closing an exciting knowledge gap amongst the life science experts in advanced microscopy.

More information on [the CEM website](#):



4.4.3 Stem Cells and Regenerative Medicine (SCRM)

SCRM launched in August 2018, is jointly offered by the GCB and the Platform for Stem Cells in Regenerative Medicine (SCRM). The program aims at fostering a new and innovative multidisciplinary approach to unravel the communication network of cells within the tissue and throughout the body during tissue regeneration.

More information on the [SCRM website](#).



4.4.4 Tumor Biology

The Tumor Biology curriculum is embedded in the Graduate School for Cellular and Biomedical Sciences of the University of Bern (GCB) and benefits from the existing Berner Cancer Research Cluster (BCRC) network. PhD students registered to the program will benefit from: basic knowledge in molecular and cell biology, as well as advanced cancer research methods and concepts from the 20 cancer research groups currently collaborating in BCRC activities. These cancer research groups are part of 8 different Departments and Institutes at the University of Bern (DBMR, Institute of Pharmacology, Medical Oncology, Institute of Tissue Medicine and Pathology, Institute of Anatomy, Vetsuisse, TKI, and the Department of Nuclear Medicine). From 2024 on, the BCRC is named “Cancer Research Network Bern (CRNB)” and organizationally embedded into the University Cancer Center Inselspital (UCI). More information can be found on the [GCB PhD Specializations website page](#).



4.4.5 Cardiovascular Research PhD Program

The Cardiovascular Research PhD Program will offer PhD or MD-PhD students the opportunity to receive in-depth cardiovascular education and to complement their PhD degree with additional coursework in Cardiovascular Research. As cardiovascular diseases are the leading cause of death globally, a greater understanding of cardiovascular physiology and pathophysiology is of utmost importance. Consequently, several teams of the University of Bern and of the Inselspital, Bern University Hospital are actively involved in research concerning the function and development of the heart, arteries, and veins, as well as the mechanisms involved, in healthy and diseased states. This research ranges from fundamental science to pre-clinical and clinical studies and relies on a multitude of different experimental models. To promote cardiovascular research teams in Bern as leaders in cardiovascular (patho)physiology and in the development of approaches to reduce disease burden, the Cardiovascular Research Cluster (CVRC) Bern was established in 2015 for all UniBE and Inselspital members with an interest in cardiovascular research. One of the CVRC's aims is to enrich the training environment of junior researchers. Another goal of the CVRC is to promote interactions and collaborations among clinical and fundamental cardiovascular research, which will be addressed with the development of this dynamic PhD Specialization option by incorporating students from the MD,PhD program. [Cardiovascular PhD Program](#).

4.4.6 Neuroscience PhD Program

The Neuroscience PhD specialization program supports training for GCB doctoral students in neuroscience during their doctorate. It includes a basic training in neurophysiology, with an optional neuro-anatomy course, and provides an up-to-date teaching in current areas of neuroscience research and techniques through the BENE弗里 Neuroscience Workshop and the BENE弗里 Hands-on Workshop, respectively. The BENE弗里 Neuroscience program is integrated into the course offered by both the Graduate Schools for Health Science (GHS) and Graduate School for Cellular and Biomedical Sciences (GCB) including the BENE弗里 program between the University of Bern and the University of Fribourg. The theoretical and practical teaching are organized in the Universities of Bern and Fribourg and include external international-standing lecturers from Swiss or European academic institutions. GCB students who apply will be granted admission at the request of the doctoral student by the Program Committee of the Specialized Neuroscience Program consisting of two representatives from the Universities of Bern and Fribourg without any additional evaluation or selection of the doctoral students or their projects. The program is open to students with background in Neuroscience including Neurology, Psychiatry, Physiology, Anatomy, Biology, Neuropsychology. More information can be found on the [BENE弗里 website](#) at the University of Bern.

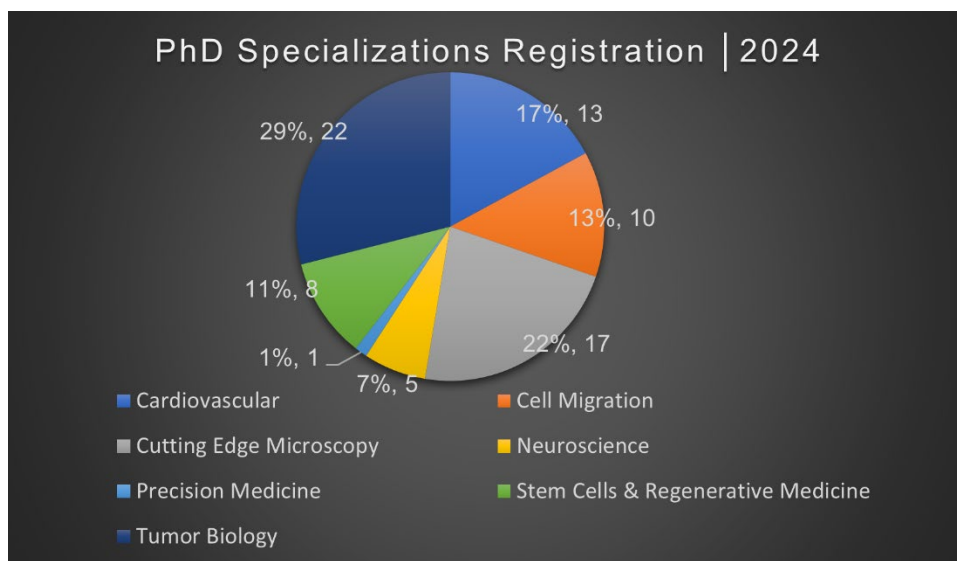
New (from 2024) PhD Specialization



4.4.7 Precision Medicine

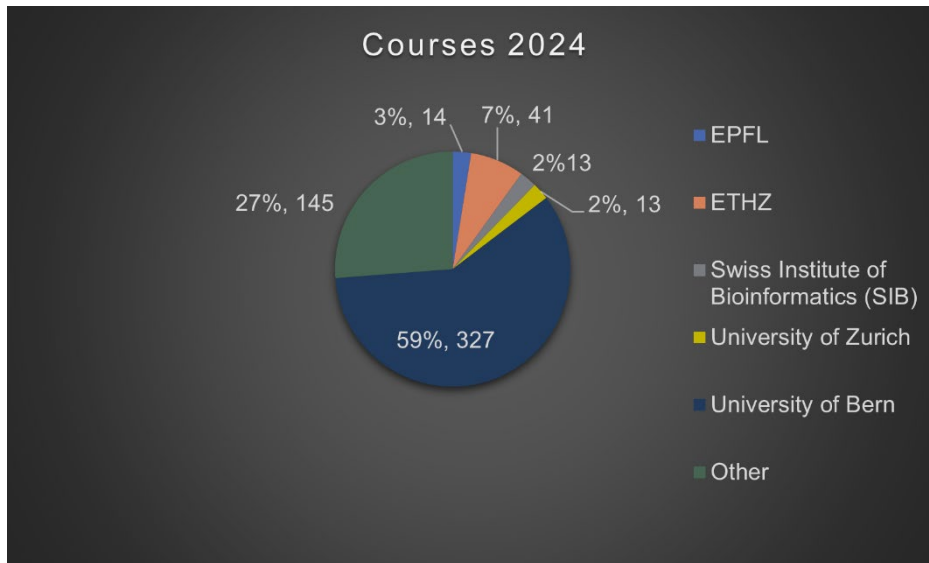
Precision Medicine is a new paradigm. It incorporates individual characteristics in the treatment of patients, such as genetic predisposition, environmental factors, and lifestyle – therapies will be “tailored” to individuals to allow measurable health improvements and to avoid adverse effects. The PhD Specialization in Precision Medicine is a cutting-edge training program on the subject, organized in a close collaboration between the Graduate School for Cellular and Biomedical Sciences (GCB) and the Bern Center for Precision Medicine (BCPM).

For more information, check out www.bcpm.unibe.ch.



5. Courses & Seminars

5.1 Individual Study Program



The individual education and training program assigned to each PhD candidate considers the student's previous training and relevance to their research work. PhD candidates may attend courses at the University of Bern or external courses and summer schools offered by other recognized institutions. External courses for the PhD students are subject to their mentor's agreement. GCB teaching events are administered using the University of Bern

Core Teaching System ([CTS/KSL](#)). Approved courses since beginning tracking (2020) included 553 Lectures, Tutorials, and Book Clubs. Of those, 327 (59%) were offered by the University of Bern institutes, 41 (7%) took place at ETH Zürich (Eidgenössische Technische Hochschule Zürich), 14 (3%) at EPFL (École Polytechnique Fédérale de Lausanne), 13 (2%) Swiss Bioinformatics Institute (SIB), 13 (2%) University of Zurich, and the remaining courses were from other institutes. These courses* are sponsored by the GCB.

5.2 Lectures, Tutorials, Book Clubs, Practicals

Popular Lectures, Tutorials, and Book Clubs

- **Immunology Tutorial*** (9-10 senior scientists)
- **Cell Biology*** («Happy Cell») Tutorial, (9-10 senior scientists)
- **Principles in Transgenic Mouse Technology** (C. Benarafa, U. Deutsch, & P. Krebs)
- **Stem Cells & Regenerative Medicine** (V. Enzmann and others)
- **Antibiotic-Resistant Bacteria and One Health: From the Plate to the Bedside** (A. Endimiani and others)
- **Topics in Tumor Biology** (D. Stroka, M. P. Tschan)
- **Lecture Course: International PhD Program in Immunology, Cell Biology and Biochemistry** (S. Monticelli, IRB Bellinzona)
- **Vascular Cell Biology*** (Britta Engelhardt)
- **Cell Migration*** (Britta Engelhardt)
- **Introduction to R** (D. Stroka, D. Sanchez-Taltavull)

- **DNA Sequencing and Variant Analysis: Basics of Sanger and Next Generation group laboratory** (V. Jagannathan, T. Leeb)
- **Concepts and measures of Animal Welfare**, M. Toscano, H. Würbel
- **Book Clubs, Journal Clubs and Seminars** (Institute of Social and Preventive Medicine ISPM)

5.3 Transferable Skills Courses

- **Scientific Integrity**, T. Ochsenreiter
- **Scientific Communications for PhD Students**, S. Longnus
- **Presenting with Confidence***, D. Levine, C. Winfield
- **Effective Grant-Writing for Young Scientists**, M. Toscano, J. Bailoo
- **Communicating Science - Scientific Writing Course**, Inselspital

5.4 GCB Seminars, Summer School, and Retreats

5.4.1 PhD Specialization in Cardiovascular Research: Swiss-wide Cardiovascular Student Retreat 2024



Following the success of our first Cardiovascular Student Retreat in 2023, this year, we extended the Cardiovascular Student Retreat to additional Swiss universities and doctoral programs, with the aim of bringing together early career investigators in the field of cardiovascular research to foster exchanges and symbioses. On November 29/30, 2024, a total of 35 students from five universities took part in our first Swiss-wide Cardiovascular Student Retreat in Ascona, Ticino. PhD and MD-PhD students presented their research in the form of flash and poster presentations, and Prof. Manuel Mayr, Professor of Cardiovascular Proteomics from Imperial College, London, UK, gave a stimulating keynote lecture. It was a fruitful and motivating meeting!

The best student presentations were chosen by the students themselves (audience prize). Congratulations to the winners: 1st Prize – Greta Scherler (Cardiovascular and Metabolism PhD Program of the Faculty of Biology and Medicine, University of Lausanne), 2nd Prize, shared by Azucena Rendon-Angel (Cardiocentro Ticino Institute, Università della Svizzera Italiana) and Carla Lembke (Institute of Anatomy, University of Bern). Likewise, the best posters received an audience award. Congratulations to the winners (shared 1st Prize): Valeria Masciovecchio (Center for Translational and Experimental Cardiology (CTEC), University of Zurich) and Mehdi Ali Gadiri (École Polytechnique Fédérale de Lausanne).

We would like to express our heartfelt thanks to all organizing universities / doctoral programs, the University of Bern (PhD Specialization Program in Cardiovascular Research), University of Lausanne (Cardiovascular and Metabolism PhD Program of the Faculty of Biology and Medicine (FBM) and the University Hospital (CHUV)), Università della Svizzera italiana (Cardiovascular / Human Cardiovascular Sciences PhD Program), and University of Zurich (Center for Translational and Experimental Cardiology (CTEC)) for making this event happen.

In addition, we would like to express our gratitude to our sponsors for their generous support: FUJIFILM VisualSonics, Olink, and Novogene, as well as the University of Bern, for their financial support of the PhD Program in Cardiovascular Research in Bern (Förderprogramm "Doktoratsprogramme/Graduate Schools Universität Bern 2021-2024"). Last but not least – a big thank-you to all participating students who made this retreat an enjoyable and stimulating event!



As per tradition, the beautiful location of Gurten Park in Bern hosted our annual PhD students retreat on 10th September 2024. We were very happy to have Prof. Dr. Alireza Mashaghi, physician-scientist, Principal Investigator at Leiden Academic Centre for Drug Research, as our academic mentor, and Dr. Luca Tamò, Clinical Operation Program Manager at Novartis Pharma Ag, as our industry mentor.

The students were happy to have the possibility to present their projects and to interact with the mentors in a friendly and uncomplicated environment, feeling free to ask their questions without feeling the pressure of being evaluated by their supervisors. Each talk was followed by an interesting scientific discussion, leading to a fruitful exchange of ideas. In addition, coffee breaks, lunch and the closing Apéro were nice opportunities to get to know each other and network with the other students as well as with the mentors and professors from the SCRM Platform (Prof. Dr. Eliane Müller and Prof. Dr. Amiq Gazdhar).

This year 15 students attended the retreat, with 11 of them presenting their projects. Initially, we had 21 students registered for the event but unfortunately, 6 of them did not attend. This is unfortunate, since most of them did not inform the Organizing Committee about their absence and we still need to cover the cost per registered student. Moreover, we had other students in the retreat's waiting list that could have joined if we would have known beforehand. Therefore, for the next years, we will stress the importance of informing the Organizing Committee in due time in the case whenever the students cannot make it to the retreat and penalize those who do not. Nevertheless, we are very happy and satisfied with the success of the event, since we got really nice feedback from the attending students and mentors, and hope that students will continue to participate enthusiastically in the future.

Importantly, we would like to thank both our mentors for their valuable support during the retreat. We really enjoyed the keynote lecture of our industry mentor, Dr. Luca Tamò, especially for sharing his experience on how he joined the industry world after his PhD at the University of Bern. We really appreciated his commitment and availability in discussing future opportunities with the students. Luca is also the founder of the 1st SCRM PhD retreat, and it was for us an honour having him here with us and telling us about the organization of the first event in 2014. We would also like to thank Cédric Vonarburg from CSL Behring, who presented his company giving useful insights on the industry world to the students. Finally, we would like to thank our academic mentor, Prof. Alireza Mashaghi, who gave a very inspiring and philosophical talk about the importance of crossing borders within scientific disciplines, establishing solid networks among scientists, and always being eager to learn in order to achieve a successful research career.

We are deeply grateful to the Stem Cell Research and Regenerative Medicine Platform and to the GCB for financially supporting us to organize our retreat. We are thankful and happy to also have received additional funding from CSL Behring. Special thanks also to the SCRM Office (Rene Aeberhard) for organizational support and to all the students who have enthusiastically participated.

We are looking forward to welcoming interested students to our next retreat, which will take place in September 2025.

On behalf of the Organizing Committee 2024 (Ainhoa Asensio Aldave, Francesco Bonollo, Siavash Rahimi, Marel Steinfert)

Francesco Bonollo



The 2024 International Summer School, organized by the Institute of Pharmacology at the University of Bern, was a vibrant three-day event held from Wednesday, August 21 to Friday, August 23, 2024. Nestled right on the picturesque shores of Lake Brienz in Bönigen, the gathering brought together a diverse group of researchers passionate about pharmacology and its connected fields. This year's theme, "Precision Medicine, Pharmacology, and Inspiration," celebrated the fresh collaboration between the Institute of Pharmacology and the Bern Center for Precision Medicine.

The program was packed with insightful keynote lectures from ten esteemed invited speakers, complemented by engaging talks from ten up-and-coming researchers and six dynamic poster presentations. These sessions sparked lively discussions, both formal and informal, creating a fertile ground for exchanging ideas and advancing knowledge.

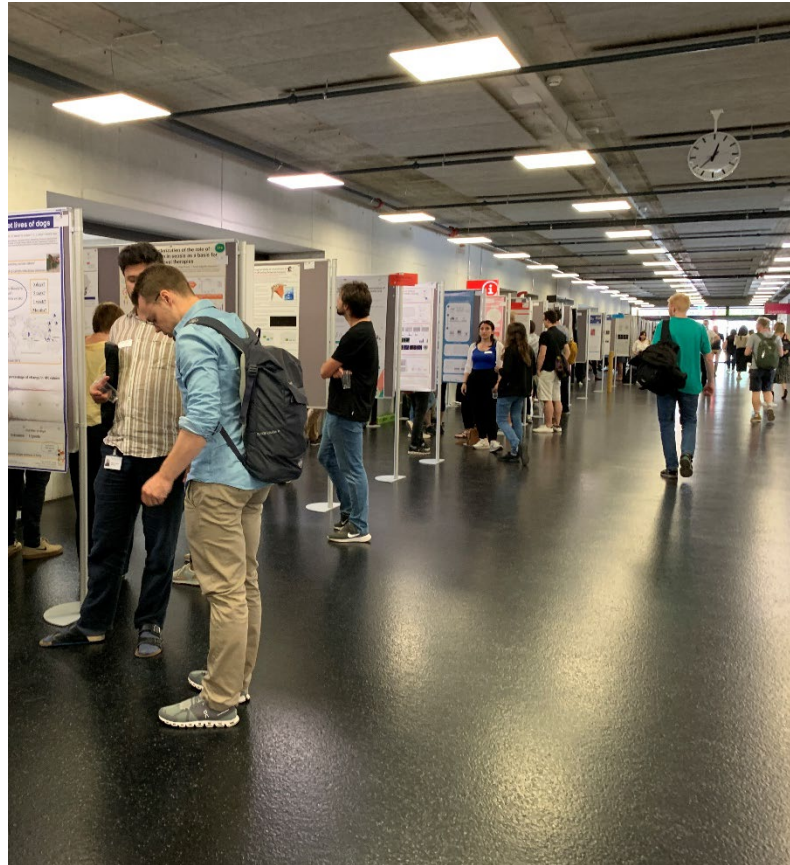
For students and early-career scientists, the summer school offered a fantastic opportunity to receive constructive feedback on their work and to peek into how leading investigators craft their research projects. Building and nurturing future scientific collaborations among participants was a key highlight and objective of the event.

Adding to its academic value, the International Summer School is recognized as an accredited course by the Graduate School for Cellular and Biomedical Sciences of the University of Bern, earning the attendees 1.0 ECTS credits.

Echoing the success of previous years, the 2024 edition proved to be a remarkable success, featuring high-caliber scientific discussions and showcasing cutting-edge advancements in pharmacology and its related disciplines.

6. GCB Academic Events

6.1 Annual Symposium



As part of the doctoral training, the GCB organizes an annual academic research symposium for its PhD candidates and their thesis committees. From the second year of study onwards, doctoral candidates are offered the opportunity to present their research projects in the form of brief lectures (posters - many of them combined with an additional Poster Flash presentation). The presentations highlight the wide range of research projects, as well as to demonstrate the candidates' high level of competence and in-depth knowledge in the fields of cellular and biomedical sciences, and biomedical engineering. The talks are thematically grouped according to the five competency areas (GCB expert committees) to which the research projects belong. The symposium also offers opportunities for GCB candidates, as well as for their supervisors and mentors to engage in mutually rewarding and highly stimulating discussions. It is for this reason, mandatory participation is required from the second program year, providing each student with at least two chances to present their research in this setting. Additionally, the symposium facilitates opportunities for active networking among peers and senior researchers.

The GCB Symposium 2024 was again held in person on June 27 at the Uni von Roll. Presentations included: **80 talks, 161 blitz talks with posters, and 49 posters without talks.** The *PhD Specialization* poster booth expanded to include in addition to the Cutting-Edge Microscopy, Stem Cells and Regenerative Medicine, and Cell Migration programs, the new specialization programs, Cardiovascular and Neuroscience. The Microscopy Imaging Center also attended with a poster. A partner program, [Life Sciences Switzerland](#) (LS²) was also present with one poster.

Again in 2024, the PhD Committee generously awarded three best thesis prizes for the 2023 theses.



Zoja Selimi, Sebastian Leidel



Sebastian Leidel, Zoja Selimi, Benedetta De Ponte Conti



Benedetta De Ponte Conti, Sebastian Leidel

- Benedetta De Ponte Conti, PhD in Immunology Medical Faculty, expert committee Cell Biology
- Zoja Selimi, MD, PhD, Medical Faculty, expert committee Biological Systems
- Vera Lehmann, MD, PhD, Medical Faculty, from the expert committee Biomedical Sciences, (Zoom)



Benjamin Gantenbein (accepting prize on behalf of Vera Lehmann), Sebastian Leidel



The GCB introduced a “people’s choice award” category in 2023. Participants could vote for the best talk, and flash within each expert committee. Congratulations again to all the winners of the People’s Choice Awards for Best Talk and Best Flash Talk at the 2024 GCB annual symposium. More than one winner reflects a vote tie.

Biomedical Sciences

Talk: Lara Indra (Institute for Forensic Medicine)

Porcine decomposition and what forensics can learn from it.

Blitz Talk: Anja Helmer (Department of Cardiac surgery, Inselspital)

Sexual dimorphism in cardiac graft recovery in a rat model of donation after circulatory death.

Poster: Alexia Clavier (Clinic of hearth surgery)

Perfusate biomarkers of DCD cardiac graft quality identified with proteomics: Studies in an isolated rat heart model

Biological Systems

Talk: Patricia Fuchs (Veterinary Physiology)

Behavioral impacts in heifers managed with a virtual fencing system on mountain pastures.

Blitz Talk: Jana Leuenberger (Institute of anatomy)

Neuronal Cell Models in Synaptic Research: Unveiling Insights for Neurodegenerative Studies.

Poster: Shuang Li (Clinical Urology, Insel) & Anais Yerly (DMBR)

Comparative evaluation of chondrogenic organoids from human mesenchymal stem cells derived from healing callus and non-union fractures

and

Anais Yerly

Loss of B cell-ACKR3 reduces atherosclerosis by decreasing plasma cells and pro-inflammatory antibody production

Biomedical Engineering

Talk: Stephan Schraivogel (DBMR)

AI for radiation-free estimation of electrode localization after cochlear implantation.

Blitz Talk: Pedro Amado (ATORG Cardiovascular Engineering)

Exploring ultrasound to clean encrustation and bacterial biofilms in ureteral stents.

Poster: Ana Frei (Institute of Tissue and Pathology)

Topology of residual tumor cells predicts patient survival after neoadjuvant chemoradiotherapy in rectal cancer

Cell Biology:

Talk: Timothée Fettlelet (Institute for Pharmacology)

The role of long non-coding RNAs in eosinophil biology.

Blitz Talk: Wanli Cheng (Clinical Urology, Insel)

Investigating key molecular players in putative stem cell subpopulations of prostate cancer.

Poster: Stefanie Schärli (Clinic of Dermatology)

IL-9 sensitizes human Th2 cells to pro-inflammatory IL-18 signals in atopic dermatitis

Molecular Biology and Biochemistry

Talk: Valentina Pecoraro (DBMR)

Human Y3 RNA binds to ribosomes and regulates translation.

Blitz Talk: Kodzo Atchou (Institute of Cell Biology)

Host cell lysosomal, endosomal vesicle fusion machinery trafficking during the Plasmodium berghei liver development stage.

Poster: Filippo Cattalani (Institute of Animal Pathology)

Identifying the cellular receptor for Clostridium perfringens NetF toxin



Professor Dr. Timm Schroeder

Department of Biosystems Science and Engineering, ETH Zurich, Basel, Switzerland

Timm Schroeder investigates the molecular control of mammalian stem and progenitor cell fates at the interface of biology, medicine, informatics, and engineering. He pioneered bio-imaging approaches for live long-term single cell quantification, and combines molecular cell biology, imaging, software development and hardware engineering. Timm studied Biology, PhD work in Munich/Germany and Kyoto/Japan, postdoc in Munich and Kobe/Japan. Principal Investigator at Helmholtz Center Munich late 2004, tenured 2008, director research unit Stem Cell Dynamics 2011. Since 2013 full professor at ETH Zurich, Department of Biosystems Science and Engineering (deputy/department head 2015-19) in Basel/Switzerland.

Long-term single-cell quantification: New tools for old questions

Surprisingly many long-standing questions in stem cell research remain disputed. One major reason is the fact that we usually analyze only populations of cells - rather than individual cells – and at very few time points of an experiment – rather than continuously.

We therefore develop imaging approaches and software to image, segment, and track cells, and to quantify e.g. divisional history, position, interaction, and protein expression or activity of all individual cells over many days and generations. Live-cell imaging is complemented by novel large-volume multi-color 3D imaging with up to single-molecule sensitivity. Dedicated software, machine learning and computational modeling enable data acquisition, curation, and analysis. Custom-made microfluidics and other hardware devices improve single-cell observation, dynamic manipulation, molecular analysis, and the high-dimensional snapshot ‘omics’ quantification of individual cells with known history, kinship and dynamics.

The resulting continuous single-cell data is used for analyzing the dynamics, interplay, and functions of signaling pathway and transcription factor networks in controlling the fate decisions of hematopoietic, pluripotent, neural stem and intestinal stem and progenitor cells.

[GCB 2024 post symposium survey.pdf](#)

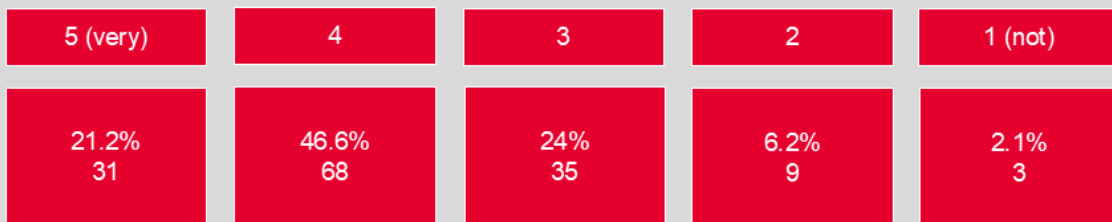
GCB Symposium 2024 Post Event Survey



Overall, how satisfied were you with the GCB Symposium 2024?

146 out of 146 people answered this question

Average rating 3.8



GCB Symposium 2024 Post Event Survey

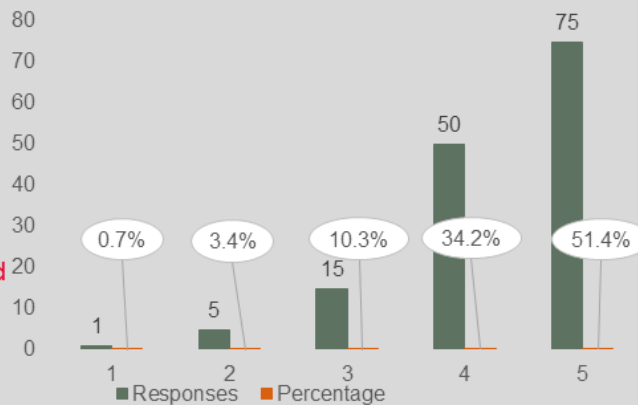


How satisfied were you with the venue?

146 out of 146 people answered this question

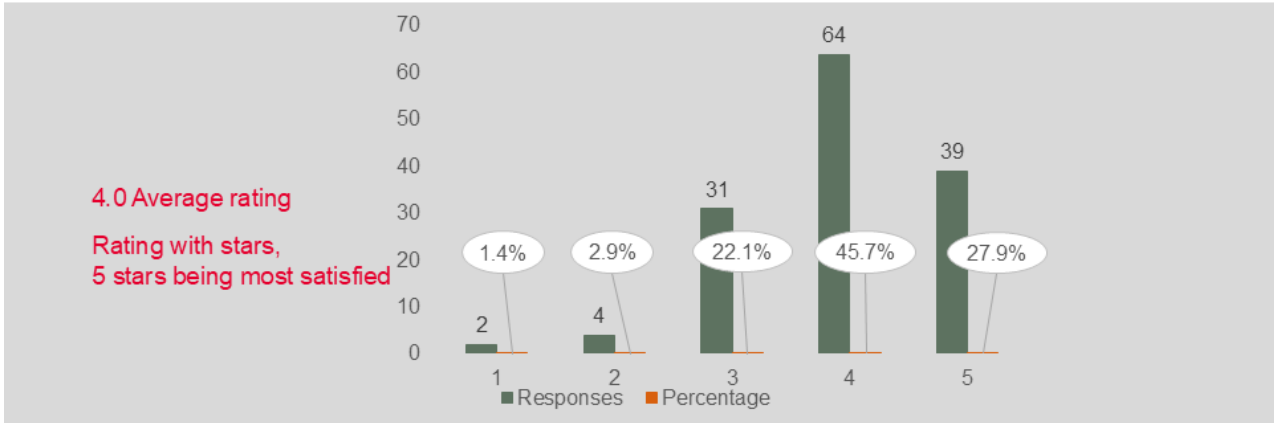
4.3 Average rating

Rating with stars,
5 stars being most satisfied



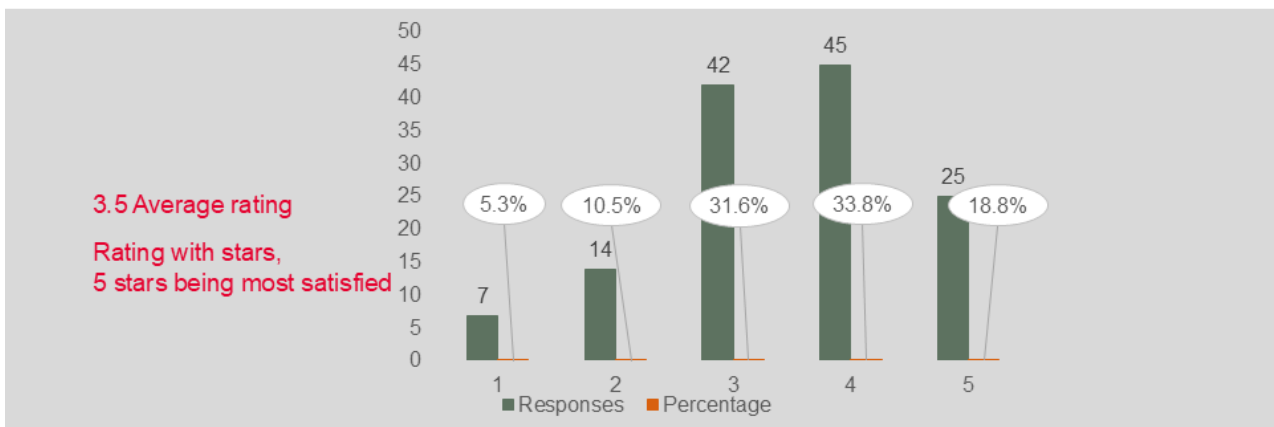
Talk and Blitz Sessions

140 out of 146 people answered this question



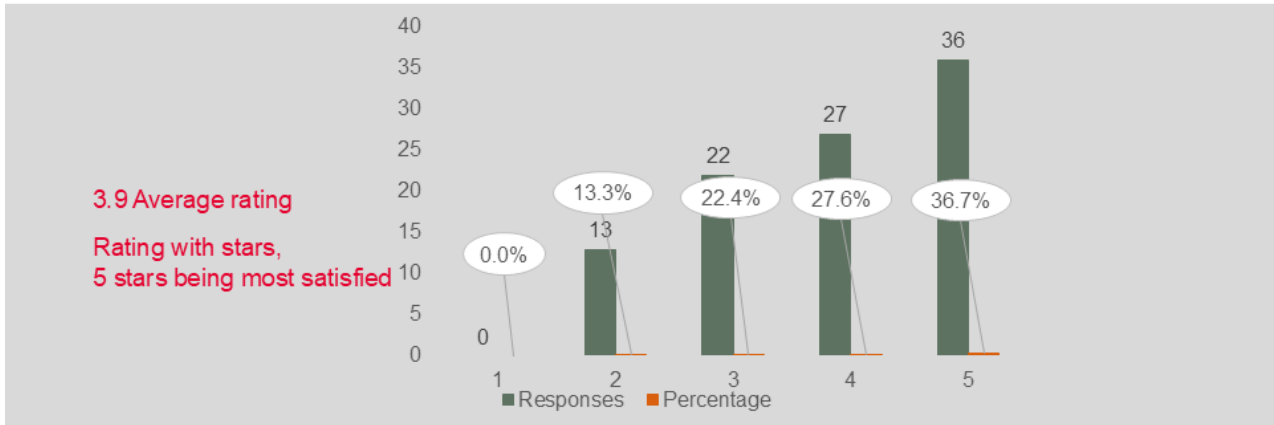
Poster Sessions

133 out of 146 people answered this question



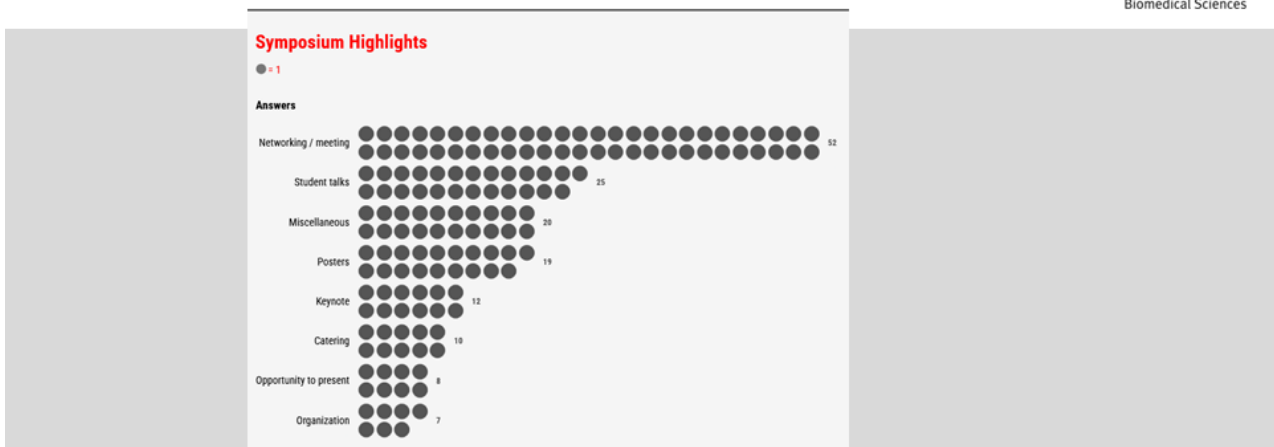
Keynote Address

98 out of 146 people answered this question



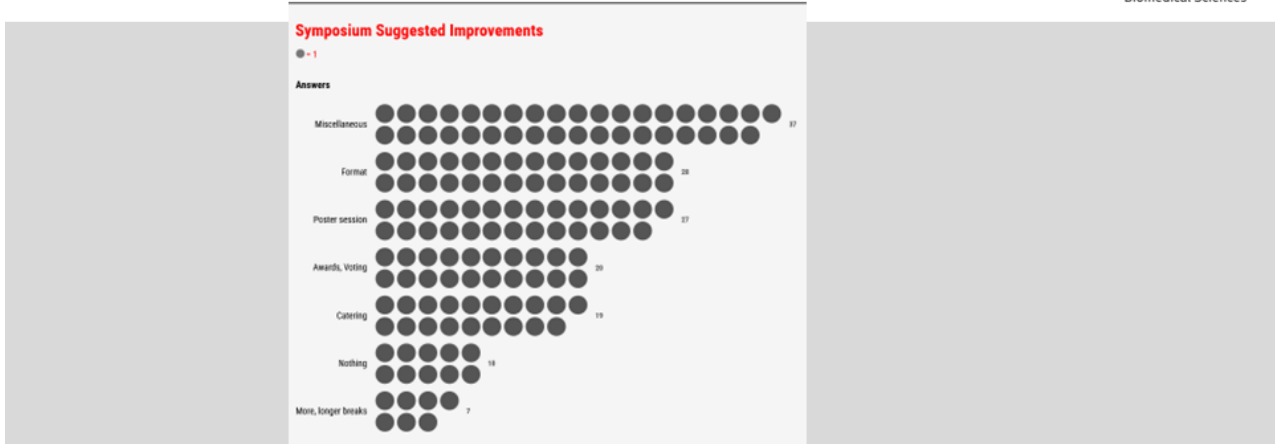
What were the highlights for you at the symposium?

146 out of 146 people answered this question



What could we improve for the next symposium?

146 out of 146 people answered this question



6.2 Graduations

Congratulations to the 121 graduates in 2024.

6.2.3 Thesis Defense Photos

Thesis Defenses 2024



Thesis Defense, Saied Ramedani. January 26, 2024



Thesis Defense, Saied Ramedani. January 26, 2024.
Prof. Dr. med. Hendrik von Tengg-Koblig, Prof. Dr. Stavroula Mouggiakakou, Saied Ramedani, PD Dr. Keivan Daneshvar, Prof. Dr. Jürgen Burger, PD Dr. Mona Salehi Ravesh



Thesis Defense, Liana Hayrapetyan, June 4, 2024.
PD Dr. Micaela Medova, Prof. Dr. Peter Scheiffele,
Prof. Dr. Benoît Zuber, Liana Hayrapetyan.



Thesis Defense, Liana Hayrapetyan, June 4, 2024.
Prof. Dr. Benoît Zuber, PD Dr. Micaela Medova,
Liana Hayrapetyan, Prof. Dr. Antoine Adamantidis,
Prof. Dr. Peter Scheiffele.

6.2.4 Graduations Photos



Amal Fahmi



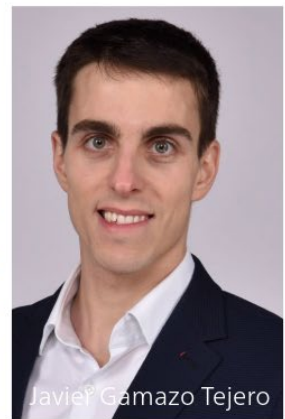
András Bálint



Elisa Rodrigues Sousa



Janine Lux



Javier Gamazo Tejero



Karoline Marie Bornemann



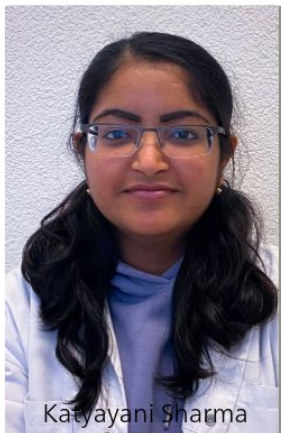
Saied Ramedani



Lukas Zbinden



Liana Hayrapetyan



Katyayani Sharma



Stephan Schraivogel



Namrata Kewalramani



Natalia Rojas



Nerea Fernandez Trigo



Lars Doorenbos



A

Akshay Akshay, PhD in Computational Biology (March 07)

Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. Katia Monastyrskaya-Stäuber)
«Molecular Drivers of Bladder Remodeling in Lower Urinary Tract Dysfunction Identified through Integrated Data Analysis of Patients' Biopsies and Animal Models»

Lordrick Alinaitwe, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (June 28)

College of Veterinary Medicine, Animal Resources and Biosecurity (COVAB), Vetsuisse Faculty Bern (Prof. Dr. Salome Esther Dürr)
«Advancements in the Epidemiology of *Leptospira* Infection in Humans and Livestock in Uganda»

Cornelia Doreen Amstutz, PhD in Biomedical Engineering (October 07)

Swiss Institute for Translational and Entrepreneurial Medicine, Medical Faculty (Dr. Adrian Zurbuchen)
«Performance evaluation of high-pressure PTCA balloon catheters»

Razieh Ardali, PhD in immunology (August 21)

Institute of Virology and Immunology, Medical Faculty (Prof. Dr. Artur Summerfield)
«Harnessing trained immunity to enhance resistance of piglets against infections»

Serra Lem Asangbeh, PhD in Biomedical Sciences (January 29)

Institute of Social and Preventive Medicine, Medical Faculty (Prof. Dr. Julia Friederike Bohlius)
«Comprehensive cervical cancer prevention and control for women living with HIV: Opportunities for programme improvement and scale-up in sub-Saharan Africa.»

Robin Avanthay, PhD in Immunology (January 9)

Institute of Virology and Immunology, Faculty of Medicine, Bern (Prof. Dr. Artur Summerfield and PD Dr. Gert Zimmer)
«The Development of a Novel Mucosal Influenza A Virus Vaccine and its assessment in pigs»

B

András Bálint, PhD in Biomedical Engineering (November 07)

Department of Ear, Nose and Throat Diseases, Head and Neck Surgery, Medical Faculty (Prof. Dr. Stefan Andreas Weder)
«How patterns of Brain Activation Predict Speech Understanding»

Erina Alexandra Balmer, PhD in Cell Biology February 15)

Institute of Cell Biology, Faculty of Science (Prof. Dr. Carmen Faso)
"Investigating the links between unconventional protein secretion, virulence and endocytic compartments in the intestinal parasite *Giardia lamblia*"

Dániel Bátor, PhD in Biochemistry and Molecular Biology (August 23)

Institute for Biochemistry and Molecular Medicine (IBMM), Medical Faculty (Prof. Dr. Jürg Gertsch)
«The Calcium-Sensing Receptor in Health and Disease: from Probe Development to Lipid Remodeling»

Katrin Beckmann, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (June 18)

Department for Small Animals, Division of Neurology Vetsuisse Faculty Zurich, Vetsuisse Zurich (Prof. Dr. Patrick Kircher)
«Investigation of Epilepsy in dogs by DTI, ASL, and rs-fMRI»

Luca Beldi, PhD in Immunology (July 26)
IFIK, Medical Faculty (Prof. Dr. Siegfried Hektor Hapfelmeier)
«Microbial interactions mediating *Clostridioides difficile* colonization resistance»

Paola Bermudez, PhD in Biomedical Sciences (December 12)
DBMR, Medical Faculty (Prof. Dr. Benjamin Gantenbein)
«Interpreting intervertebral disc phenotypes: An *in-vitro*, *ex-vivo* and *in-silico* approach»

Kristina Carolin Berve, PhD in Neuroscience (January 10)
Theodor-Kocher-Institute, Medical Faculty (Prof. Dr. Britta Engelhardt)
«Brain Endothelial Molecules as Regulators of Immune Cell Trafficking into the Central Nervous System during Health and Neuroinflammation»

Nils Sven Bodmer, PhD in Cell Biology (October 30)
Institute of Pathology, University of Bern, Medical Faculty (Prof. Dr. Mario Paul Tschan and Prof. Dr. Inti Zlobec)
«The Epigenetic Regulation of CDX2 and its Role in Colorectal Cancer Cell migration»

Karoline-Marie Bornemann, PhD in Biomedical Engineering (October 10)
ARTOG, Medical Faculty (Prof. Dr. Dominik Obrist)
«Instability mechanisms leading to laminar-turbulent transition past bioprosthetic aortic valves »

Sandra Braun, PhD in Biomedical Sciences (April 19)
Institute of Forensic Medicine, Medical Faculty
«Evaluating the Usefulness of CT Data for Trauma Analysis and Sex Estimation» (PD Dr. Sandra Lösch and Dr. Marco Milella)

Catharina M. H. Broekmeulen, PhD in Biomedical Sciences (December 12)
Veterinary Public Health Institute. Vetsuisse Faculty of Bern (Prof. Dr. Michael J. Toscano; Dr Sabine G. Gebhardt-Henrich)
«Effects of on-farm hatching system factors on multitasking ability and stress responsivity in laying hens»

Michelle Buri, PhD in Immunology (February 13)
Department for Biomedical Research (DBMR), Medical Faculty (Prof. Dr. Carsten Riether)
«The role of acetylcholine in the regulation of acute myeloid leukemia stem cells»

C

Camilla Giulia Calastra, PhD in Biomedical Engineering (October 29)
Institute of Diagnostic Interventional and Pediatric Radiology, Medical Faculty (Prof. Dr. Bernd Jung and Prof. Dr. med. Hendrik von Tengg-Kobligk)
«Characterising Congenital Vascular Malformations using Ultrafast Magnetic Resonance Imaging»

Edgar Igor Campos-Madueno, PhD in Biochemistry and Molecular Biology (August 14)
Institute for Infectious Diseases. Medical Faculty (Prof. Dr. Andrea Endimiani)
«Gut Colonization with Multidrug-Resistant Gram-Negative Bacteria in Swiss People Living Abroad: Molecular Characterization, Epidemiology, and Risk Factors Associated with Acquisition and Transmission»

Yihe Chen, PhD in Immunology (March 27)
Institute of Pharmacology, Medical Faculty (Prof. Dr. Hans-Uwe Simon)
«The BK channel limits the pro-inflammatory activity of macrophages»

Christoph Ludwig Clement, PhD in Biomedical Engineering (November 26)
Lab for Artificial Intelligence and Translational Theranostics (AITT), Medical Faculty (Prof. Dr. Kuangyu Shi)
«Artificial Intelligence's Transformative Impact on Nuclear Medicine Imaging across Scales»

D

Mariko Dale, PhD in Biochemistry and Molecular Biology (June 28)

Institute of Animal Pathology, Vetsuisse, Vetsuisse Faculty Bern (PD Dr. Philipp Alexander Olias)
«Exploring responses to *Cryptosporidium parvum* infection in neonatal mice with insights into secreted effector proteins»

Morgane Francine Decollogny, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (October 25)

Institute of Animal Pathology, Vetsuisse faculty, Vetsuisse Faculty Bern (Prof. Dr. Sven Rottenberg)
«Investigating the niche of drug-tolerant tumor-repopulating cells to eradicate residual disease in BRCA1;p53-deficient mammary tumors»

Peter Methys Degen, PhD in Computational Biology (November 08)

DBMR, Medical Faculty (Dr. Matúš Med, PD Dr.phil. Michaela Medova)

«Challenges in Bulk and Single-cell RNA-Seq Analysis: Investigating Robustness and Replicability»

Inês de Paula Costa Monteiro, MD PhD (Doctor of Medicine and Philosophy) (September 20)

DBMR, Department of Tumour Immunology, Medical Faculty (Prof. Dr. med. Adrian Ochsenbein)

«The role of ILC2 in the regulation of cancer stem cells of colorectal cancer and acute myeloid leukemia»

Eva Dervas, DVM, (Doctor of Veterinary Medicine and Philosophy) (February 27)

Institute of Veterinary Pathology Zürich, Vetsuisse Zürich Faculty (Prof. Dr. Anja Kipur)

«Boid inclusion body disease and immunosuppression - another hen-egg question?»

Rim Diab, PhD in Neuroscience (February 02)

Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. Antoine Roger Adamantidis and Prof. Dr. Smita Saxena)

«Investigating the Functional Impact of *C9ORF72* Haploinsufficiency on Autophagy in *C9ORF72*-linked Amyotrophic Lateral Sclerosis and Frontotemporal Lobar Degeneration»

Lars Jelle Doorenbos, PhD in Biomedical Engineering (November 15)

ARTORG, Medical Faculty (Dr. Pablo Márquez Neila)

«Reliably Processing Unexpected and Ambiguous Images in Computer Vision»

Prisca Rosa Dotti, PhD in Biomedical Engineering (July 22)

Department of Physiology, Medical Faculty (Prof. Dr. Marcel Egger)

«Detection, Localization, and Classification of Subcellular Ca²⁺ Release Events: Using a Deep Learning Approach»

E

Manuel Egle, MD PhD (Doctor of Medicine and Philosophy) (September 02)

Department of Cardiovascular Surgery, Inselspital, Medical Faculty (Prof. Dr. Sarah Henning Longnus and PD Dr. Lucio Barile)

«Cardiac graft preservation and evaluation in transplantation with donation after circulatory death»

F

Amal Fahmi, PhD in Biomedical Sciences (July 1)

Institute of Virology and Immunology, Vetsuisse Faculty Bern (Prof. Dr. Marco Alves)

«Unveiling the Hidden Threat: Investigating Zoonotic Virus Infections using State-of-the-Art Human *in Vitro* Models»

Simone Falco, PhD in Biomedical Sciences (October 23)

Institute of Pharmacology, Medical Faculty (Prof. Dr. Georgia Konstantinidou)

«Understanding the role of cardiolipins in the adaptation of lung cancer cells to hypoxia»

Marco Jakob Felber, PhD in Immunology (December 19)
Universität Bern, Inselspital, DBMR, Medical Faculty (Prof. Dr. med. Reiner Wiest and Dr. Tim Henning Rollenske)
« β - Adrenergic Drive Impairs Gut-Vascular Barrier (GVB): Mechanism Involved in Small Intestinal-Barrier Dysfunction in Experimental Cirrhosis and Acute-on-chronic Liver Failure (ACLF)»

Javier Eduardo Fernandez, PhD in Biochemistry and Molecular Biology (June 17)
Institute of Veterinary Bacteriology- Molecular Epidemiology and Infectious Diseases, Vetsuisse Faculty Bern (Prof. Dr. Vincent Perreten)
«WGS-based analysis of multi-drug resistant bacteria isolated from animal and human sources»

Nerea Fernandez Trigo, PhD in immunology (September 3)
Department for BioMedical Research. Medical Faculty (Prof. Dr. Stephanie Christine Ganal-Vonarburg)
«Commensal Microbiota during the Window of Opportunity: Impacts on Mammary Gland Physiology, Breast Milk Composition, and Type-1 Diabetes Development»

Stefan Forster, MD PhD (Doctor of Medicine and Philosophy) (January 26)
Medical Oncology and Tumor Immunology, DBMR, Medical Faculty (Prof. Dr. med. Adrian Ochsenbein)
«The Role of CD70/CD27/TNFK Signaling and Niche Interactions in Solid and Hematologic Malignancies»

G

Angel Javier Gamazo Tejero, PhD in Biomedical Engineering (December 03)
ARTORG, Medical Faculty, Medical Faculty Bern (Prof. Dr. Raphael Sznitman)
«Overcoming Data Limitations through Optimization: From Annotation Strategies to Real-World Applications»

Markus Daniel Gerber, PhD in Biochemistry and Molecular Biology (April 19)
DCBP, Medical Faculty (Prof. Dr. André Schneider)
«Msp1 in *Trypanosoma brucei* mitochondrial quality control»

Zahra Gharailoo, PhD in Immunology (April 05)
Department of BioMedical Research DBMR, Medical Faculty (Prof. Dr. Martin Bachmann and Prof. Dr. Monique Vogel)
«Generating a Virus Like Particles-based vaccine against IgE»

Lucilla Giammarino, PhD in Biomedical Sciences (July 15)
Department of Physiology-UNIBE, Medical Faculty (Prof. Dr. Katja Elisabeth Odening)
«Tailoring personalized medicine approaches in cardiac electrical diseases: unraveling sex differences in atrial electrical properties and assessing gene therapy efficacy in LQT1 channelopathy»

Selianne Félice Mara Graf, PhD in Biomedical Sciences (February 28)
Department of Cardiovascular Surgery, Medical Faculty (Prof. Dr. Sarah Henning Longnus, Prof. Dr. Lucio Barile)
«Metabolic-based approaches to cardioprotection and graft evaluation in heart transplantation with donation after circulatory death (DCD)»

Klara Johanna Grethen, PhD in Biomedical Sciences (October 2)
Animal Welfare Division, Veterinary Public Health Institute, Vetsuisse Faculty Bern
(PD Dr. Michael Jeffrey Toscano and Dr. Yamenah Gómez)
«From the backyard to commercial production: An investigation of social dynamics of laying hens»

Yvan Gugler, PhD Biomedical Engineering (April 23)
ARTORG Center, Medical Faculty
«Evaluation of 3D DXA Reconstructions of the Proximal Femur for FE-Based Strength and Fracture Risk Predictions» (Prof. Dr. Philippe Zysset)

Gian Mauro Carlo Guyer, PhD in Biomedical Engineering (January 11)
Division of Medical Radiation Physics, Inselspital Bern, Medical Faculty Bern (Prof. Dr. Peter Manser and Prof. Dr. Michael Fix)
«Non-isocentric dynamic trajectory radiotherapy and dynamic mixed photon-electron beam radiotherapy»

H

Liana Hayrapetyan, PhD in Biomedical Sciences (June 04)

DBMR, Medical Faculty (PD Dr. phil. Michaela Medova)

«MET receptor serine 1014 phosphorylation in neurodevelopment and its relevance to autism spectrum disorder»

Hanspeter Hess, PhD in Biomedical Engineering (October 11)

sitem Center for Translational Medicine and Biomedical Entrepreneurship, Medical Faculty (PD Dr. Kate Gerber)

«Three-dimensional diagnosis for rotator cuff tear using deep learning algorithms»

Yoandry Hinojosa Lopez, PhD in Biomedical Sciences (December 10)

Institute of Virology and Immunology, Vetsuisse Faculty Bern (Prof. Nicolas Ruggli)

«Identification of virulence factors of classical swine fever virus using a pair of evolutionary-related high and low virulent isolates»

Thomas Christoph Höhener, PhD in Cell Biology (February 29)

Institute of Cell Biology, Faculty of Science (Prof. Dr. Olivier Pertz)

«An Optogenetic Approach for System-Wide Exploration of MAPK Signaling Dynamics»

Jimin Hong, PhD in Biomedical Engineering (April 15)

Clinic for Nuclear Medicine Bern, Insel, Medical Faculty (Prof. Dr. Kuangyu Shi)

«Artificial Intelligence for Integrated Multi-tracer PET Imaging supporting Biomarker Development for Neurodegenerative Disorders»

I

Joël Alain Illi, PhD in Biomedical Engineering (December 18)

Universität Bern, Inselspital, DBMR, Medical Faculty (Prof. Dr. Christoph Gräni)

«Investigating the niche of drug-tolerant tumor-repopulating cells to eradicate residual disease in BRCA1;p53-deficient mammary tumors»

Lara Isabelle Indra, PhD in Biomedical Sciences (October 18)

Institute of Forensic Medicine, Medical Faculty (PD Dr. Sandra Lösch)

«Forensic taphonomy in Switzerland: Investigations on decomposition and vertebrate scavenging»

Dominik Inniger, PhD in Biomedical Engineering (June 24)

Institute of Applied Physics, Faculty of Science (Prof. Dr. Thomas Feurer)

«Pulsed Laser for Soft Tissue Ablation»

Aleksandra Ivanovic, PhD in Biomedical Engineering

ARTORG, Medical Faculty (Prof. Dr. Lukas Anschutz)

«Hearing under the Lens: Exploring the Human Middle Ear with Synchrotron-based Phase-contrast Microtomography»

J

Joana Jorge da Costa, PhD in Immunology (April 22)

Department for BioMedical Research DBMR, Medical Faculty

«Unveiling IL-1 β Significance: Biosensor Development, Disease Insights, and Giant Cell Arteritis Implications» (Prof. Dr. Martin Bachmann, Prof. Dr. Monique. Vogel)

K

Marc Max Kaethner, PhD in Biochemistry and Molecular Biology (May 24)

Institute of Parasitology, Vetsuisse Faculty Bern (Prof. Dr. Britta Lundström Stadelmann)

«Food for thought: Investigation and inhibition of the threonine metabolism of *Echinococcus multilocularis* and further approaches towards novel treatment options for echinococcosis»

Thokozani Kalua, PhD in Biomedical Sciences (September 17)
Institute of Social and Preventive Medicine. Faculty of Sciences (Prof. Dr. Matthias Egger)
«HIV virological outcomes of an antiretroviral regimen mass transition in the Malawi HIV treatment program disrupted by the COVID-19 pandemic»

Namrata Murli Kewalramani, MD PhD (Doctor of Medicine and Philosophy) (December 13)
Universität Bern, Inselspital, Medical Faculty
«Precision Cut Lung Slices as an *ex vivo* model to study Respiratory Diseases»

Chrysanthi Kouri, PhD in Biomedical Sciences (November 29)
DBMR, Pediatric Endocrinology, Medical Faculty (Prof. Dr. med. Christa Emma Flück Pandey)
«Understanding the clinical and genetic complexity in persons with differences of sex development»

Pascal Siegfried Krenger, PhD in Immunology (October 24)
RI-Immunologie- Inselspital, Medical Faculty (Prof. Dr. Martin Bachmann)
«The ARTT of VLPs: The Crucial Role of Antigen Repetitiveness, TLR Ligands, and Target Epitopes for Virus-Like Particle-Based Vaccine Efficacy»

Thomas Kueffer, PhD in Biomedical Engineering (May 8)
Department of Cardiology, University hospital Bern, Medical Faculty
«Advancing Ablation Technology in Electrophysiology» (Prof. Dr. Tobias Roman Reichlin, Prof. Dr. Andreas Häberlin)

L

Franziska Langhammer, PhD in Biomedical Sciences (June 10)
DBMR, Humangenetik, Medical Faculty (Prof. Dr. Christiane Gertrud Zweier)
«Pathomechanisms of RHOBTB2-associated neurodevelopmental disorders»

Siri Michelle Leeman, PhD in Biomedical Sciences (June 14)
Institute of Physiology, Medical Faculty (Prof. Dr. Sonja Kleinlogel and Prof. Dr. Nadia Mercader-Huber)
«Optogenetically disentangling the role of beta-adrenergic signaling in cardiomyocytes»

Matthias Licheri, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (September 12)
IFIK, Medical Faculty (PD Dr. Ronald Dijkman)
«Rapid identification and epidemiological analysis of emerging human and animal viruses»

Victoria Maria Ji-Young Lim Falk, PhD in Neuroscience (October 25)
Department of Neurology (Neuroimmunology), Medical Faculty (Prof. Dr. Vincent Pernet)
«Exploring circulating extracellular vesicles in autoimmune diseases of the central nervous system»

Fabian Urs Luther, PhD in Immunology (June 28)
University Clinic Dermatology (Insel), Medical Faculty (Prof. Dr. Christoph Schlapbach)
«PPAR- γ regulates the effector function of human T helper 9 cells by promoting glycolysis»

Janine Lux, PhD in Biomedical Sciences (September 06)
IFIK, Medical Faculty (PD Dr. Lucy Jane Hathaway)
«Interspecies communication between *Streptococcus pneumoniae* and other bacteria via peptides»

M

Adrian Michael Madarasz, MD PhD (Doctor of Medicine and Philosophy) (July 08)
Theodor Kocher Institute, Medical Faculty (PD Dr. Steven Thomas Proulx)
«Pathways and Dynamics of Erythrocyte Efflux in Murine Models of Hemorrhagic Stroke»

Andrea Marti, PhD in Biochemistry and Molecular Biology (May 24)
Institute of Virology and Immunology (IVI), Vetsuisse Faculty (Prof. Dr. Artur Summerfield)
«Adaptation of Japanese encephalitis virus following passaging in the porcine host»

Malin Kristin Meier, MD PhD (Doctor of Medicine and Philosophy) (March 28)
Department of Orthopedic Surgery and Traumatology, Medical Faculty (Prof. Dr. Simon Damian Steppacher)

«Artificial intelligence based 3D MRI models of the hip for improved preoperative assessment»

Korollus Melek, PhD in Biochemistry and Molecular Biology (November 21)

IBMM, Medical Faculty (Prof. Dr. Christine Peinelt)

«Characterization and regulation of TMEM206 in immune and cancer cells»

Johanna Franziska Menze, PhD in Biomedical Engineering (March 08)

School of Precision and Biomedical Engineering, Faculty of Medicine (PD Dr. Kate Gerber)

«Towards subject-specificity in biomechanical modelling of rotator cuff pathologies and interventions»

Christoph Manuel Meyer, PhD in Biochemistry and Molecular Biology (July 18)

DBMR, Medical Faculty (Prof. Dr. Peter Vermathen)

«Metabolic Investigations of Mitochondrial Disorders in Whole Cells and Mitochondrial Isolates using NMR and MS»

Steven Lukas Misztal, PhD in Immunology (June 05)

DBMR, Medical Faculty (Prof. Dr. med. Andrew Macpherson)

«Mechanisms of Host microbial mutualism»

Camille Marie Montalcini, PhD in Biomedical Sciences (February 09)

Animal Welfare Division, University of Bern, Vetsuisse Faculty Bern (PD Dr. Michael Jeffrey Toscano)

«Examining spatial personalities of commercial laying hens and behavioural responses to keel bone fractures and management practices»

N

Na'Amneh Elzenaty Rawda, PhD in Biomedical Sciences (October 30)

Pediatric endocrinology/diabetology/metabolics, Medical Faculty

(Prof. Dr. med. Christa Emma Flück Pandey)

«SF1 - Understanding the clinical and genetic complexity of human steroidogenic factor 1 (SF-1/NRA1) variants in sex steroid biology»

O

Vedat Burak Ozan, PhD in Biomedical Sciences (March 20)

Department for BioMedical Research DBMR, Medical Faculty (PD Dr. med. Amiq Gazdhar)

«Generation of Patient Specific, Pluripotent Stem Cell Derived Lung Organoids»

P

Ioannis Papathanail, PhD in Biomedical Engineering (June 26)

ARTORG, Medical Faculty (Prof. Dr. Stavroula Mougiakakou)

«Machine learning-based system for dietary assessment»

Javier Pareja Román, PhD in Immunology (June 06)

Theodor Kocher Institute, Medical Faculty (Prof. Dr. Britta Engelhardt)

«Unveiling the cellular and molecular pathways of CD8+ T cell migration across the CNS barriers»

Laureen Michèle Peters, Doctor of Veterinary Medicine and Philosophy (DVM, PhD) (May 6)

Small Animal Clinic, Vetsuisse Bern Faculty (Dr. Judith Howard)

«Identification of Regenerating Proteins in Dogs and Evaluation as Novel Biomarkers»

Simone Poli, PhD in Biomedical Engineering (March 27)

Department of BioMedical Research DBMR / ASMS /DRNN, Medical Faculty (Prof. Dr. Roland Kreis)

«Investigation of human glucose metabolism by multiparametric and multinuclear magnetic resonance methods»

Q

R

Saied Ramedani, PhD in Biomedical Engineering (January 26)

Department of Diagnostic, Interventional and Pediatric Radiology, Bern University Hospital, Faculty of Medicine, Bern (Prof. Dr. med. Hendrik von Tengg-Kobligk and Dr. med. Keivan Daneshvar)
«Automated evaluation of the whole body's muscle-fat composition by machine learning for magnetic resonance images (MRI)»

Vasundhara Rao, PhD in Cell Biology (September 24)

Institute of Cell Biology IZB, Faculty of Science (Prof. Dr. Olivier Pertz)
«Mechanisms of Cytoskeletal Feedback to Rho GTPase Signaling»

Raphael Rätz, PhD in Biomedical Engineering (July 06)

ARTORG Motor Learning and Neurorehabilitation, Medical Faculty (Prof. Dr. Laura Marchal Crespo)
«Novel Clinical-Driven Robotic Devices for Sensorimotor Training»

Martina Larissa Reichmuth, PhD in Biomedical Sciences (March 07)

Institute of Social and Preventive Medicine ISPM, Medical Faculty (PD Dr. Christian Althaus)
«Modeling transmission dynamics and human behavior during the SARS-CoV-2 epidemic in Switzerland»

Lukas Rimle, PhD in Biochemistry and Molecular Biology (October 31)

DCBP, Faculty of Science (Prof. Dr. Christoph von Ballmoos)
«Investigations into the mode of action of leucostatin A and its derivatives on mitochondria and mitochondrial ATP synthase»

Steve Jacquy Robatel, PhD in Immunology (March 21)

Institute of Pathology, Medical Faculty (Prof. Dr. Mirjam Schenk)
«Developing new therapeutic regimens for pancreatic ductal adenocarcinoma»

Elisa Rodrigues Sousa, PhD in Biomedical Sciences (July 11)

DBMR, Medical Faculty (Prof. Dr. Marianna Kruithof-de Julio)
«The Role of CRIPTO Signalling in Lethal Prostate Cancer»

Marie Roig-Pons, PhD in Biomedical Sciences (October 15)

Veterinary Institute of Public Health, Vetsuisse Faculty of Bern (Prof. Hanno Würbel and Dr. Sabrina Briefer Freymond)
«Horses and slow-feeders: investigating consequences on horse health and behaviour»

Adrian Ryser, PhD in Biomedical Engineering (August 23)

Department of Cardiology, Medical Faculty (Prof. Dr. Andreas David Heinrich Häberlin and Prof. Dr. Thomas Niederhauser)
«Low-Power Conductive Intracardiac Communication for Leadless Multi-Chamber Pacemaker Systems»

S

Helena Saura Martinez, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (October 18)

FIWI, Vetsuisse Bern (Prof. Dr. Heike Schmidt-Posthaus)
«Are Wild and Farm Brown Trout alike? Exploration of Environmental factors, Immunity, and Population Dynamics in the Context of Proliferative Kidney Disease»

Noah Samuel Schnüriger, PhD in Immunology (September 18)

DBMR, Medical Faculty (Prof. Dr. Carsten Riether)
«Exploring the roles of CD4+ T cells and VISTA in the regulation of leukemic stem cells in acute myeloid leukemia»

Stephan Christopher Schraivogel, «PhD in Biomedical Engineering (November 11)
Hearing Research Laboratory, ARTOG, Medical Faculty (PD Dr. Wilhelm Wimmer)
«Impedance Telemetry-Based Insertion Depth Estimation for Cochlear Implants
From Research to Clinical Application»

Jan Andries Schulte, PhD in Biomedical Sciences (March 27)
Center for Biomedical Engineering ARTORG, Medical Faculty (Prof. Dr. Olivier Thierry Guenat)
«Development of a novel alveoli-on-chip model for mechanical investigations on primary human alveolar epithelial cells»

Sara Doina Schütz, PhD in Biochemistry and Molecular Biology (February 15)
Interfaculty Bioinformatics Unit/Laboratory Spiez, Faculty of Sciences (PD Dr. Rémy Bruggmann)
"Functional Characterization of *Francisella tularensis* subspecies *holarctica* Genotypes with a Proteogenomic Approach"

Alba Segura Amil, PhD in Biomedical Engineering (February 01)
University clinic for Neurosurgery, Inselspital Bern, Medical Faculty (Dr.sc.Thuy Anh Khoa Nguyen and Prof. Dr. Claudio Pollo)
«Improving DBS therapy with patient-specific tractography»

Patcharamon Seubnooch, PhD in Biomedical Sciences (April 15)
Institute of Clinical Chemistry, Inselspital, Medical Faculty (Prof. Dr. Mojgan Masoodi)
«Spatial metabolic imaging to access hepatic lipid metabolism in Metabolic dysfunction-associated steatohepatitis»

Katyayani Sharma, PhD in Biochemistry and Molecular Biology (February 09)
Pediatric Endocrinology, University Children's Hospital Bern, Medical Faculty (Prof. Dr. Amit Vikram Pandey)
«Identification and Targeting of Novel Mechanisms for Treatment of Castration Resistant Prostate Cancer (CRPC)»

Kristina Slabeva, PhD in Biomedical Sciences (February 01)
Inselspital, Department Neurology, Medical Faculty (Prof. Dr. Maxime Baud)
«Circadian timing of limbic seizures in the epileptic mouse»

Tomáš Sláma, Doctor of Medicine and Philosophy (May 08)
Institute of Social and Preventive Medicine ISPM, Medical Faculty (Prof. Dr. Claudia Kühni, Prof. Dr. Christina Schindera)
«Physical functioning and cardiovascular disease among survivors of childhood cancer»

Daniel Spari, PhD in Biomedical Engineering (May 23)
DBMR, Visceral and Transplantation Surgery, Medical Faculty (Prof. Dr. med. Guido Jakob Friedrich Beldi)
«The Role of Released Bacterial ATP, Intestinal Dysbiosis and Liver-ILC3s in Surgical Infections and Sepsis»

Irene Spera, PhD in Neuroscience (January 10, 2024)
Theodor Kocher Institute, Faculty of Medicine, Bern (Dr. Steven Thomas Proulx)
«Advanced imaging approaches to investigate cerebrospinal fluid outflow pathways in mice»

Roxane Patricia Spiegelhalder, PhD in Cell Biology (September 20)
ISP Institute of Plant Sciences Bern, Faculty of Science (Prof. Dr. Michael Thomas Raissig)
«Multiple factors guide guard cell morphogenesis in *Brachypodium distachyon*»

Moritz Maximilian Ottmar Stelzer, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (December 17)
FIWI, Vetsuisse Faculty Bern (Prof. Dr. Heike Schmidt-Posthaus)
«Proliferative Kidney Disease - an emerging disease for Swiss wild brown trout populations
Development of a non-invasive monitoring system and research on other possible intermediate hosts for *Tetracapsuloides bryosalmonae*»

Diego Stutzer, PhD in Biomedical Engineering (August 22)
Institute for Human Centered Engineering, Medical Faculty (Prof. Dr. Jürgen Burger and Prof. Thomas Niederhauser)
«Robust feedback control of piezoelectric dental scalers»

T

Sergio Tascon Morales, PhD in Biomedical Engineering (May 15)
ARTORG, Medical Faculty (Prof. Dr. Raphael Sznitman and Dr. Pablo Márquez Neila)
« Spatial Awareness and Logic for Robust Visual Question Answering »

Danielle Michèle Thompson, PhD in Biochemistry and Molecular Biology (January 08)
Institut für Virologie und Immunologie, Vetsuisse Faculty Bern
«Functional analysis of the bat influenza A virus M2 protein»

Joel Matias Tuomaala, PhD in Biomedical Sciences (October 24)
Institute of Cell Biology IZB, Faculty of Science (Prof. Dr. Benjamin Daniel Towbin)
«Selectivity of ribophagy balances the life history tradeoff between survival and rapid recovery»

U

Christian Urzi, PhD in Biomedical Engineering (June 17)
DBMR, Medical Faculty (Prof. Dr. Peter Vermathen)
«Short-term Detection of Metabolic and Oxygen Changes upon Substrate Charges or Inhibitor Challenges using an NMR Bioreactor System»

V

Ellen Marleen van Maren, PhD in Biomedical Engineering (June 06)
Department of Neurology, Inselspital, Medical Faculty (Prof. Dr. Maxime Baud, Prof and Dr. Kaspar Schindler)
«The Dynamics of Effective Connectivity in the Human Cortex»

Simone Vincenti, PhD Neuroscience (June 5)
Small Animal Clinic, Vetsuisse Bern Faculty (Prof. Dr. Franck Forterre, Prof. Dr. Paolo Ciana)
«Investigation on the use of patient derived extracellular vesicle to assist the therapeutic plan of brain tumors in dogs»

W

Cédric André Walker, PhD in Biomedical Engineering (November 29)
Institute of Animal Pathology, Vetsuisse Faculty Bern (Prof. Dr. Sven Rottenberg)
«Computational characterization of the tumor microenvironment to identify prognostic and predictive biomarkers in ovarian cancer»

Chang Wang, PhD in Cell Biology (March 25)
Institute of Anatomy, Medical Faculty (Prof. Dr. Benoît Zuber)
«A novel labelling method in Cryo-electron microscopy aimed to investigate in-situ synapse connector proteins.»

Hanjie Wang, PhD in Biomedical Engineering (January 24)
Center for Biomedical Engineering Research ARTORG, Medical Faculty (Prof. Dr. Tobias Nef)
«Heart Rate Dynamics and Control During Exercise»

Tsering Monika Wüthrich, PhD in Biomedical Sciences (December 18)
Institute for Infectious Diseases, Medical Faculty (Prof. Dr. Markus Hilty)
«The microbiota and its pathogens in chronic respiratory diseases: from strain typing to community dynamics»

X

Xiaoli Yang, MD PhD (Doctor of Medicine and Philosophy) (June 27)

Inselspital, Universität Bern, Medical Faculty (Prof. Dr. Claudio L. A. Bassetti)

«Sleep disordered breathing, atrial fibrillation and ischemic stroke: A prospective observational cohort study»

Y

Z

Adam Zabini, MD PhD (Doctor of Medicine and Philosophy) (November 06)

Laboratory for Radiation Oncology, Medical Faculty (PD Dr.phil. Michaela Medova)

«Exploring the dual role of SPRR2A in invasiveness and therapeutic resistance in head and neck squamous cell carcinoma»

Lukas Zbinden, PhD in Biomedical Engineering (October 31)

ARTORG, Medical Faculty (Prof. Dr. Adrian Thomas Huber)

«Advances in Automated Non-Invasive Liver MRI Phenotyping and Stochastic Segmentation»

Xilei Zhu, Doctor of Dentistry and Philosophy (DDS,PhD) (September 17)

Department of Periodontology, School of Dental Medicine. Faculty of Medicine (Prof. Dr. Anton Sculean Sigrun Eick)

«Hyaluronic Acid as Potential Anti-biofilm and Anti-inflammation Agent in Periodontal Therapy An In-vitro Research»

Jana Ziegelmeüller, PhD in Biochemistry and Molecular Biology (April 26)

DCBP, Faculty of Science

«In vitro investigation of translation-dependent mRNA quality control» (Prof. Dr. Oliver Mühlemann)

6.3 Student Awards & Recognitions

6.3.1 Best 2023 theses, awarded at GCB Symposium 2024

Selimi Zoja

Department of Physiology
Medical Faculty

Supervisors: Jan P. Kucera
Co-Advisor: Hugues Abriel and Jean-Sébastien Rougier
Mentor: Inti Zlobec

Cardiac sodium channels: to interact or not to interact?

Abstract

Heart disease is a leading cause of mortality and morbidity, whereby heart rhythm disorders (arrhythmias) represent a large burden. Arrhythmias result from disturbances of the generation and propagation of action potentials. The time course of the cardiac action potentials determined by different ion channels expressed in the cell membrane. Voltage-gated sodium (Na⁺) channels are essential, as they play a key role in producing the rapid upstroke of the action potential, thereby also ensuring the rapid spread of excitation across the myocardium. Congenital pathologies in which the function of these channels is altered are related to specific syndromes such as long QT type 3 syndrome and Brugada syndrome. In the last decades, it was shown that Na⁺ channels are complex structures that interact with many regulatory macromolecules. Recently, based on single-channel recordings of channel pairs, it was even suggested that two Na⁺ channels may functionally interact and exhibit coupled gating, and that this interaction could lead to the dominant negative effect of certain variant channels (e.g. L325R, leading to Brugada syndrome). This shifts the classical paradigm from the notion that Na⁺ channels gate independently towards a new concept in which Na⁺ channels form functionally interacting dimers.

Thus, if channels are not independent, then the mathematical models that are used to explain their biophysical properties have to be refined accordingly. Therefore, the first aim of this thesis was to develop models of interacting Na⁺ channel pairs accounting for and explaining the tendency of the channels to open and close together. Next, it was our aim to implement this interaction in a model of a heterodimer consisting of a wild-type and a L325R variant channel to examine the contribution of functional interactions in producing the dominant negative effect of the variant. For this purpose, we developed a novel modelling approach in which two Markovian channel models were combined such that every state of the first channel is associated with every state of the second. Thus, the model consists of composite states with defined free energy levels and energy barriers between these states. In the model without interactions, these energy landscapes (and hence the transition rates between the states) are identical to those in the single channel models. Interactions were introduced by varying the free energy of the composite states or the barriers between these states. We ran simulations for a pair of generic 2-state models (closed-open, C-O), 3-state models (closed-open-inactivated, C-O-I) and for a pair of full 6-state cardiac Na⁺ channel models. By adjusting the energy landscapes, we were able to replicate the functional coupling of Na⁺ channels that was reported by others. This was achieved mainly by increasing the free energies of the CO/OC composite states and lowering the energy barriers between the CO/OC and CO/OO states. After implementing the same energy changes in the wild-type-L325R channel heterodimer, we observed that the function of the wild-type channel was strongly impaired, leading to a significantly reduced current. This suggests that functional interactions between channels contribute to the negative dominance of the L325R variant.

However, our model was based on the limited experimental data of others. Therefore, the second aim of this thesis was to obtain own single-channel recordings and to develop corresponding processing algorithms and analyses in order to refine our interacting channel model. We performed single-channel recordings of Na⁺ currents in HEK293 cells expressing human Nav1.5 channels as well as in adult mouse and rabbit cardiomyocytes using the cell-attached patch clamp technique, with patches containing 2 to 4 channels. Yet, these recordings are corrupted by capacitance artefacts, baseline drifts and high frequency noise. To avoid human bias, we developed an automated step-by-step algorithm to de-trend and idealize these currents. To examine channel interactions, we counted the number of open channels at every time point in the idealized traces, and from these counts, we computed the counts that would be expected under the assumption that the channels are independent. Then, we quantified the interaction by statistically comparing the observed and expected distributions of these counts, by computing the Shannon's entropy difference between these distributions and by examining if the channels tended to synchronize their openings or closings based on transition probability analysis. However, we did not identify any interaction of significant magnitude, in contrast to what was reported by others.

Despite our observation that wild-type Na⁺ channels rather behave as independent entities, this study does not exclude the possibility that these channels can exhibit functional interactions under stress conditions

associated with disease. In any case, the computational framework that we developed is a valuable tool because the same concepts can be applied and implemented to model and analyse other interacting channels (of the same type, or even different channels from different families). Furthermore, this work also provides an automated pipeline to process, idealize and analyse single-channel recordings, which we believe will be useful to the scientific community.

Medical Faculty

Supervisor: Fabio Grassi
Co-Advisor: Philippe Krebs
Mentor: Yitzhak Zimmer

Probing gut-tumor axis during therapy with immune checkpoint inhibitors by modulating intestinal extracellular ATP

Abstract

Cancer represents one of the most important causes of mortality in Western countries. In recent years, several therapeutic strategies have been successfully exploited to unleash the anti-tumor immune response and treat various forms of the disease. In solid tumors, immune checkpoint inhibitors (CPIs) (e.g. anti-PD-1/PD-L1 and anti-CTLA-4 antibodies) have provided unprecedented successes in eradicating previously incurable tumors in a fraction of responder subjects. However, the considerable number of patients non-responding or developing resistance to the therapy and of subjects showing severe immune related adverse events (irAEs) associated with CPIs administration has prompted the search for more effective and less toxic combinatorial therapeutic regimens able to overcome the unsuccessful or pathogenic application of immune checkpoint blockade (ICB).

The gut microbiota is essential for many aspects of host physiology, including intestinal and immune system differentiation, tissues homeostasis and systemic metabolism. Deleterious alterations in the composition of the microbial community structure, referred to as dysbiosis, have been associated to a number of diseases. The intestinal ecosystem represents an essential cofactor in ICB outcome and preclinical studies have pinpointed the specific beneficial function of selected microbes, such as *Bacteroidetes fragilis*, *Bifidobacterium*, *Akkermansia muciniphila*, and *Ruminococcaceae*.

Accordingly, dysbiosis induced by antibiotics inhibited the clinical benefit of ICB in patients with advanced cancer, which could be restored by administration of different bacterial taxa; in this respect, particularly significant was the association of improved tumoricidal activity with the accumulation of CD4+ T cells expressing the small intestine-associated chemokine receptor 9 (CCR9) in tumor beds of mice gavaged with *A. muciniphila* after antibiotic treatment. Beyond pre-clinical models, the most compelling evidence associating the intestinal microbiota with ICB outcome, was the demonstration that fecal microbiota transplant from advanced melanoma patients responding to ICB could promote the anti-tumor response in immunotherapy-refractory subjects.

Many factors contribute to the shaping of the gut microbiota, but specific mechanisms responsible for host microbiota mutualism are not thoroughly understood. Secretory IgA (SIgA) may enhance commensal bacteria colonization by promoting adhesion and/or nutrient utilization of bacteria within the mucosal niche. In fact, IgA-coated bacteria contribute to host physiology and metabolism, and are important for the preservation of commensals diversity and community networks in the human gut. High-affinity T dependent SIgA in the gut are mainly generated in gut-associated lymphoid tissue (GALT), such as Peyer's patches (PPs), in the small intestine. We have previously shown that microbiota-derived extracellular ATP (eATP) can regulate SIgA production by limiting T follicular helper (Tfh) cells abundance in the PPs of the terminal ileum through the stimulation of the ionotropic P2X7 receptor (P2X7R). This signaling mechanism proved to be important in shaping a beneficial gut microbiota and conversely, limited the effective generation of protective SIgA upon oral vaccination with attenuated enteric pathogens. Apyrase is an ATP-diphosphohydrolase that catalyzes the sequential hydrolysis of ATP to ADP and ADP into AMP. The abrogation of intestinal eATP in gnotobiotic mice colonized with *Escherichia coli* transformants expressing the apyrase gene from *Shigella flexneri* (*E. coli*pApyr) resulted in SIgA repertoire amplification. In addition, the enhanced production of SIgA in mice lacking the P2X7 receptor, resulted in increased SIgA coating of bacteria typically residing in the small intestine, especially *Lactobacillus*, *Enterococcus* and *Enterobacteriaceae* that conditioned systemic metabolism. Given the importance of the gut ecosystem in conferring responsiveness to ICB, we leveraged the function of apyrase on SIgA repertoire to enhance intestinal fitness during ICB. This approach proved to be effective in preventing small intestinal alterations associated to ICB, enhancing effector T cell migration from the gut to the tumor bed and boosting the tumoricidal effect of CPIs.

Vera Franziska Lehmann

Department of Diabetes, Endocrinology, Nutritional Medicine and Metabolism
Medical Faculty

Supervisor: Christoph Stettler
Co-Advisor: Tobias Kowatsch
Mentor: Benjamin Gantenbein

Leveraging Technology to Detect and Prevent Dysglycemia in Diabetes and Beyond – Novel Approaches and Future Directions**Abstract:**

Effective detection and prevention of dysglycemia, a state of glucose imbalance characteristic of diabetes mellitus and other metabolic disorders, are crucial for minimizing associated short- and long-term complications. Despite significant advances in diabetes management, dysglycemia remains a key problem resulting in significant morbidity and mortality. This thesis is built on the overarching hypothesis that technology can be leveraged to detect and prevent dysglycemia, thereby improving care of people with diabetes and other metabolic diseases.

The first part of this work aimed to develop and evaluate novel approaches for detecting hypoglycemia using machine learning (ML). While hypoglycemia is one of the most dangerous complications of diabetes, current detection methods are constrained by invasiveness, availability, cost, and diagnostic delay. This work developed and evaluated a non-invasive ML approach based on driving and gaze/head motion data for detecting hypoglycemia while driving. This concept was established in people with diabetes driving in a simulator and was confirmed in real car experiments. Furthermore, this thesis discovered that postbariatric hypoglycemia significantly impairs driving behavior, suggesting the potential of the previously described ML approach to detect hypoglycemia in diseases other than diabetes. By extending the concept to consumer-grade wearables, this work demonstrated the viability of ML-based detection of hypoglycemia based solely on smartwatch data, providing a non-invasive and scalable approach to detect hypoglycemia outside of vehicles and throughout the day.

The second part of this thesis aimed to assess strategies to prevent dysglycemia in the population using automated insulin delivery (AID) systems. This work showed that multiple transitions towards more advanced AID systems gradually reduce time spent in hyperglycemia. Moreover, lower carbohydrate intake was associated with greater time spent in euglycemia, thereby highlighting the potential of lifestyle measures to reduce dysglycemia even when using advanced AID technology.

In conclusion, my thesis demonstrates the potential of leveraging technology for detecting and preventing dysglycemia. Specifically, I have shown the feasibility of non-invasive hypoglycemia detection through behavioral and physiological data using ML, thereby addressing important limitations of current sensing approaches and empowering self-management of affected individuals. The detection approaches presented in this work emphasize the broader concept of using ML to infer health states through biomedical signals that may be applicable beyond diabetes. Furthermore, I have shown that advanced AID technology can significantly improve glycemia but that lifestyle modifications such as reducing carbohydrate intake remain essential for achieving glycemic targets. Thus, while technological approaches are powerful tools for managing glycemia, combined technological and non-technological strategies may result in the best outcomes for preventing dysglycemia.

Photo**Text**

Vanessa Vallesi, a PhD Student of the GCB, has been awarded the UniBE Doc.Mobility Grant for a one-year research stay at the Pitié-Salpêtrière University Hospital in Paris. She will join the MOV'IT research group, focusing on movement disorders.



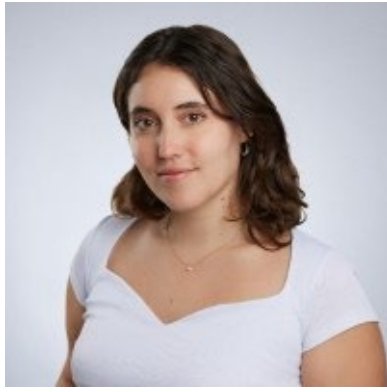
Amit Kamath attended the Falling Walls Science Summit 2024 in Berlin in November, as one of four speakers from Switzerland amongst 100 speakers worldwide. He had a 3-minute pitch about our research on radiotherapy and AI, a video recording of which has been reproduced on youtube: <https://youtu.be/066tAjZeOpI>



Simone Leoni was awarded a travel grant (500EUR) for his Top-Rated abstract at the ECCMID Global 2024 where he was also selected for a talk



Yasmeen Mady received an award for best presentation in the Cancer Research Network Bern (CRNB) Annual Retreat 2024. The prize for the best presentation went to Yasmeen Mady, a PhD student at the Institute of Tissue Medicine and Pathology (IGMP). The prize was presented by Prof. Dr. phil. nat. Deborah Stroka.



Alba Neher Mestre, Division of Neurological Sciences (DNS), Vetsuisse faculty in Bern, was awarded a Travel Grant at the 21st International Symposium on Problems of Listeria and Listeriosis in Norwich (September 10th-13th)



Margherita Polidori, Division of Neurological Sciences (DNS), Vetsuisse faculty in Bern was awarded the Best Oral Presentation at the Congress of the European Society of Veterinary Pathology and the European College of Veterinary Pathologists (San Lorenzo El Escorial, Spain, August 28th-31st)



Antonia Dyroff, Institute for Veterinary Anatomy, wins best pre-clinic poster award with the contribution "A Comparison of RNA- AND DNA-Based 16S rRNA Amplicon Sequencing Analysis of the Equine Uterine Microbiome" at the 7th Poster and Networking Day of the Vetsuisse Faculty Zurich (October 10th, 2024)



Farah Mansour, et. al, Immortalization of patient-derived lip cells for establishing 3D lip models. Over 20 media outlets covered this story!

Scientists create a world-first 3D cell model to help develop treatments for devastating lip injuries. In a new study published in *Frontiers in Cell and Developmental Biology*, scientists report the successful immortalization of donated lip cells, allowing for the development of clinically relevant lip models in the lab. This proof-of-concept, once expanded, could benefit thousands of patients.



Giulia Savioli receives the Young Scientist Award for both best presentation and best poster.

I am absolutely delighted to have been awarded the Young Scientist Award for both best presentation and best poster at this year's Annual Veterinary Public Health Conference, in Zürich. The presentation was on our ongoing project on Risk Mapping of West Nile Fever for Switzerland, and the poster on my PhD project on the Burden of Disease in Swiss Pork Production.

It was a great conference, with many interesting talks. A particular thanks to the Institute for Food Safety and Hygiene (ILS) at Vetsuisse Zürich for organising the event this year. A great way to finish this year!



Philipp Egli was awarded a 2nd place research prize for his presentation, Einfluss des Geburtsablaufs sowie verschiedener Sauen- und Ferkelparameter auf die Gebärmutterrückbildung bei Sauen in freier Abferkelung, from the bpt Swine Section at the bpt Congress in Hanover.

6.3.3 New Award Announced in 2023

Stem Cell Research and Regenerative Medicine Platform (SCRM) first annual award

The Stem Cell Research and Regenerative Medicine Platform (SCRM) announced in 2023, a new prize for the most outstanding PhD thesis in the field of stem cell and/or regenerative medicine research. Supervisors were invited to nominate their students until September 2024 for this award. Following the nominations, a shortlist of three students was selected to deliver brief presentations at the SCRM Annual Meeting in November 2024. The winner of the award was determined during the annual meeting and the award was presented to **Vera Tscherrig** for her thesis,

“The therapeutic potential of microRNAs from small extracellular vesicles derived from Wharton's jelly mesenchymal stromal cells in premature white matter injury.”

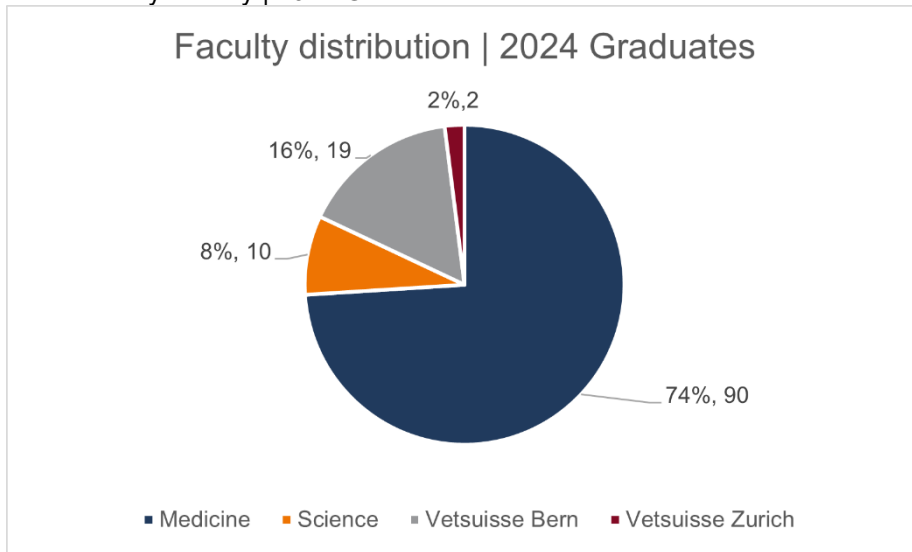
Approximately one million babies die every year due to premature birth (PMB), making PMB the leading cause of childhood morbidity and mortality. Premature birth often results in neurological injuries with neurodevelopmental and neuro-behavioural complications, such as white matter injury (WMI). To date, there is no cure for WMI. Given the large global health burden underlying the long-term adverse outcomes of WMI, the need for an appropriate treatment is crucial. In recent years, small extracellular vesicles (sEV) derived from mesenchymal stroma cells (MSC) have emerged as promising therapeutic agents for neonatal brain injuries. They can enhance neuroprotection, reduce inflammation, and promote tissue repair and regeneration. Especially MSC-sEV from perinatal derivatives, such as the connective tissue of the umbilical cord, the Wharton's jelly (WJ-MSC-sEV), have been allocated to improve the outcomes of neonatal brain injuries. However, the underlying mechanisms of the observed beneficial effects are not entirely understood. The WJ-MSC-sEV carry a variety of bioactive cargo, including microRNAs (miRNAs), which are suggested to be stably transferred to target cells, leading to the modulation of gene expression. Therefore, miRNAs, released by WJ-MSC-sEV upon uptake in their target cells, may play an essential role in the effects of WJ-MSC-sEV on neurological diseases. In this thesis, we evaluate the functionality of miRNAs from WJ-MSC-sEV in in vitro and in vivo models of premature WMI.

Using ultracentrifugation followed by size exclusion chromatography, sEV were purified from Wharton's jelly MSC. The WJ-MSC-sEV were characterized based on the guidelines of the Minimal Information for Studies of Extracellular Vesicles (MISEV), and their miRNA content was measured by RT-qPCR. A luciferase assay was established to evaluate the regulatory capacity of the miRNAs in WJ-MSC-sEV, using vectors with the 3'-untranslated region (3'UTR) of either TAOK1 or TP53, both genes involved in apoptosis and inflammation. In addition, a DROSHA knockdown (k.d) of the MSC was performed to reduce the amount of mature miRNAs in the WJ-MSC-sEV. These DROSHA k.d sEV were used to evaluate the functionality of WJ-MSC-sEV miRNAs on signalling pathways and genes involved in oligodendrocyte (OL) maturation and neuronal apoptosis *in vitro*. Beyond the *in vitro* settings, to investigate the functionality of WJ-MSC-sEV *in vivo*, we used a previously established rat model of premature WMI. White matter injury is induced in newborn rats by a combination of inflammatory and hypoxic-ischemic stimuli. Twenty-four hours post-injury, the rat pups received an intranasal administration of WJ-MSC-sEV. To evaluate whether the intranasal application is a suitable choice for delivery, the WJ-MSC-sEV were infrared-labelled, and the biodistribution in the living system was tracked using an IVIS Spectrum CT. In addition, the functionality of miRNAs in WJ-MSC-sEV was investigated *in vivo* by using the DROSHA k.d sEV as previously introduced and evaluating their potential to attenuate microglial activation and to promote OL maturation compared to naïve WJ-MSC-sEV. We could show that the isolated WJ-MSC-sEV aligned with specific known sEV criteria based on their morphology, protein cargo, size, and zeta potential. In addition, within the WJ-MSC-sEV, we identified miRNAs, including hsa-miR-22-3p, hsa-miR-21-5p, hsa-miR-27b-3p, and members of the hsa-let-7 family, which are predicted to target genes involved in WMI-related processes. When WJ-MSC-sEV were added to control cells previously transfected with vectors containing either the 3'UTR of TAOK1 or TP53 downstream of a luciferase gene, there was a significant decrease in the luciferase signal. This decrease indicates that the miRNAs present in WJ-MSC-sEV efficiently bind to the 3'UTR regions of specific mRNA molecules and successfully regulate their expression. Furthermore, naïve WJ-MSC-sEV significantly increased the expression of genes related to the maturation of the OL lineage cells *in vitro*, while the DROSHA k.d sEV did not significantly alter the expression of these genes. Following *in vitro* oxygen-glucose deprivation and reoxygenation, only the naïve WJ-MSC-sEV reduced apoptotic markers in neuroblastoma cells. At the same time, the DROSHA k.d sEV did not alter the apoptotic markers significantly. *In vivo*, the same trend has been observed. The naïve WJ-MSC-sEV performed better in reducing microglial activation and improving OL maturation than the DROSHA k.d sEV. However, *in vivo*, the role of miRNAs appears to be less crucial for the beneficial effects of WJ-MSC-sEV. The miRNA cargo of WJ-MSC-sEV plays a pivotal role in the neuroprotective and therapeutic potential of WJ-MSC-sEV. Our results show that the miRNAs in WJ-MSC-sEV can efficiently regulate the expression of multiple genes involved in processes of OL maturation. They can further ameliorate neuronal apoptosis and inflammation. These findings support the considerable relevance of WJ-MSC-sEV miRNAs in therapeutic applications. It is worth noting that the cargo of WJ-MSC-sEV is complex, comprising not only miRNAs but also proteins, lipids, and DNA. While our findings highlight the importance of WJ-MSC-sEV miRNAs, it is essential to consider that the therapeutic potential of sEV may also be influenced by other components of their cargo, such as proteins, lipids, or DNA.

7. Facts and Figures

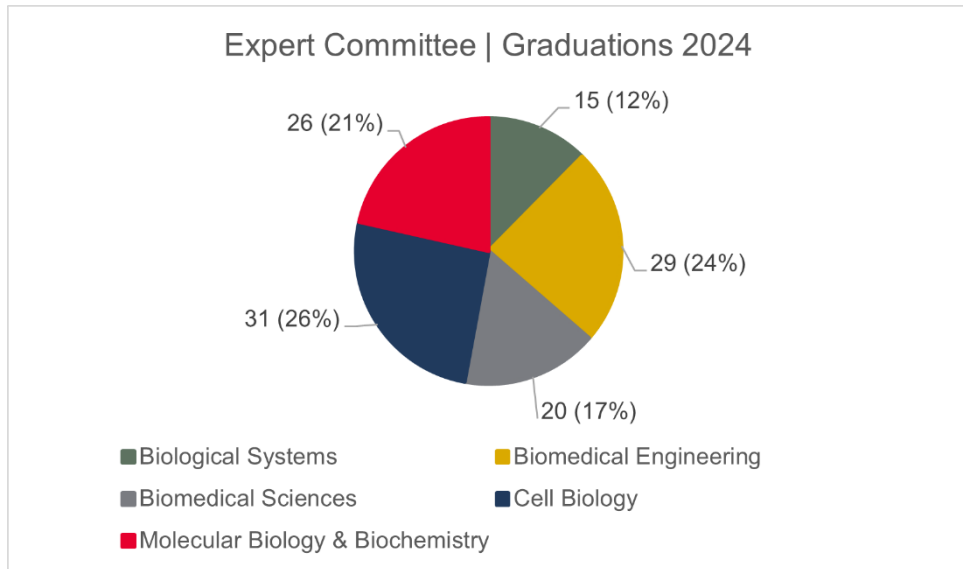
7.1 Highlights | 2024 Graduates

Graduations by Faculty | 2024 Graduates



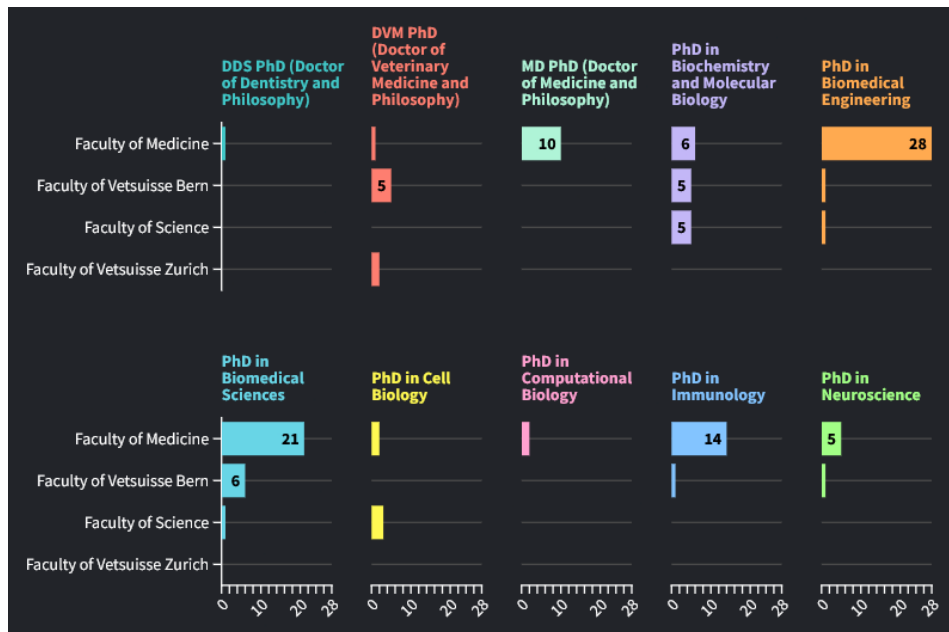
7.1.1

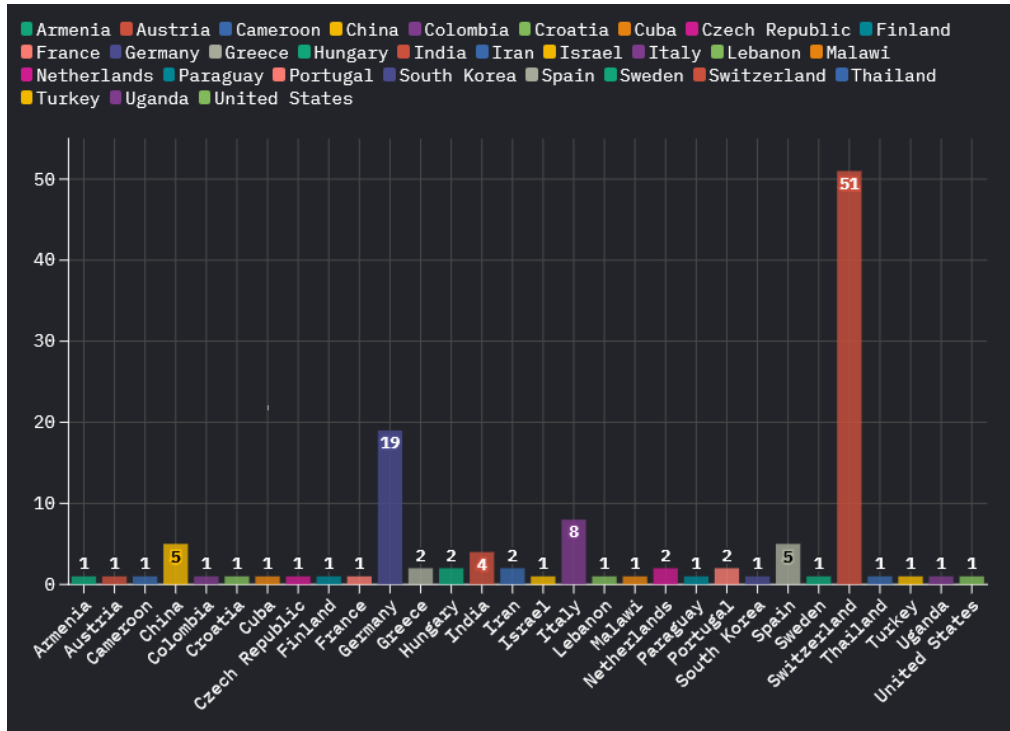
Graduations by Expert Committee | 2024 Graduates

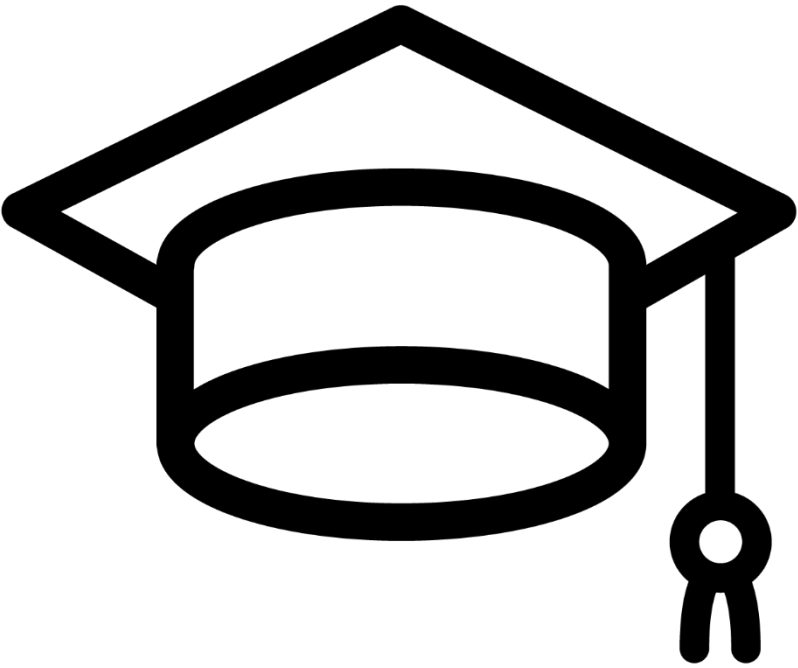


7.1.2

Degree Titles by Faculty | 2024 Graduates

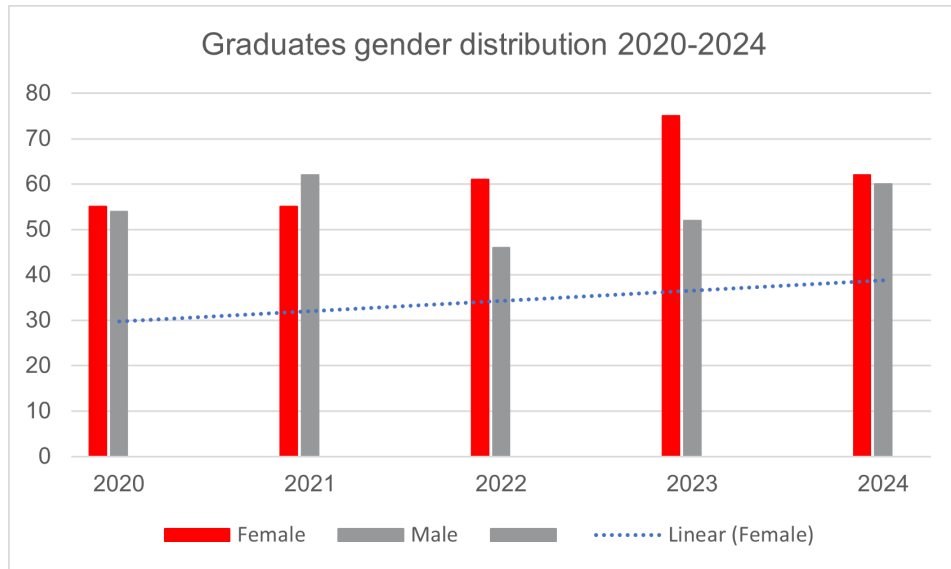




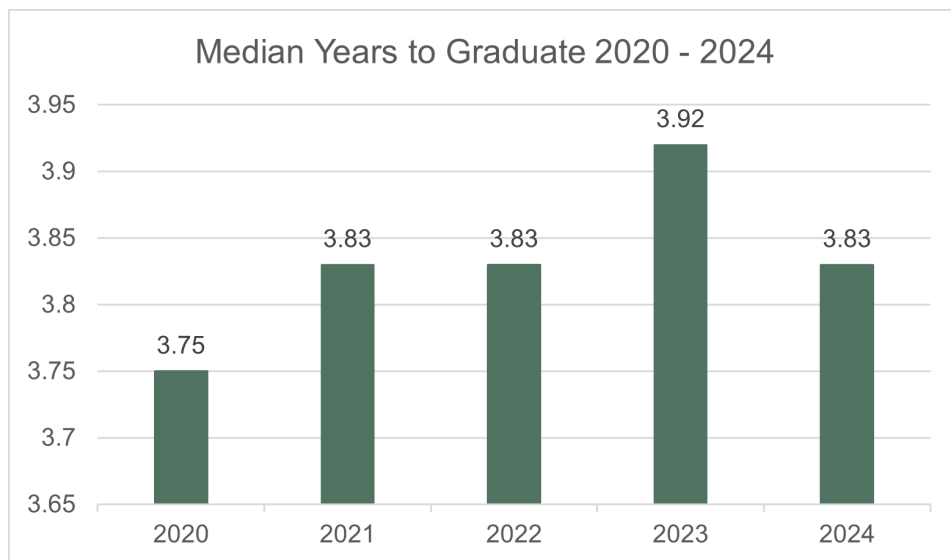


7.2 Five-Year Figures (2020-2024)

7.2.1 Graduates's Gender Distribution







7.2.2 Median Years to Graduate



8. Digital Presence

8.1 Communication and social media

| Follow GCB | |
|--|---|
| <p>LinkedIn</p> <p>Joined in June 2023. Over 650 followers by end of 2024.</p> |   |
| <p>GCB Website</p> <p>Thesis defenses, graduations, publications and more featured here.</p> |  |
| <p>GCB101 ILIAS</p> <p>GCB101: Everything students and supervisors need to know about how to navigate the GCB processes and requirements in clear, easy-to-understand steps.</p> <p>Over 800 members by end of year.</p> |  |

9. Acknowledgments

The **University of Bern Leadership** and **Deans** of the three GCB Faculties of Medicine, Science and Vetsuisse that jointly administer the graduate school. The support that the graduate school receives allows the GCB administration and partners to continue to offer excellence throughout its structured graduate program.

From the Academic Careers Office we would like to thank Vice rector Prof. Andrew Chan and Marco Hollenstein for their efforts to champion support for the next generation PhD students at the GCB.

The **GCB PhD Committee** for their ongoing support and motivation to maintain the quality of the PhD program despite the tremendous number of new applications. The willingness to deal with ongoing new challenges such as AI or the acceptance of students with a master from the Fachhochschule (FH). Thank you for working relentlessly to improve the GCB curriculum, we value your input very much. Special thanks goes to our GCB President Prof. Sebastian Leidel for being always available to support the GCB team.

GCB Mentors. Your dedication to the GCB PhD students, your valuable input to assess the quality of the research proposal and your kindness to support our students through difficult situations. The GCB often receives positive feedback from freshly graduated PhDs when they pick up their signed diplomas. The graduates value your guidance and your work is highly appreciated.

Raffaele Battaglia and the **Institute of Social and Preventive Medicine (ISPM) IT Support team (Ives Gerber and Christian Wyniger)** for their unflappable support throughout varying levels of IT-literacy, and many urgent requests; you have kept us in business and prevented us from having serious work-stoppages due to IT challenges.

PhD Specialization program coordinators and staff- Your innovation to improve the GCB curriculum by providing GCB students the opportunity to further specialize their study programs which opens more avenues for their careers, while elevating the GCB to a first-rate graduate school.

The **CTS/KSL** team (**Roger Hasler and Norbert Wernicke**) has been and continues to be a great support throughout the year with their expertise, quick and knowledgeable responses to our questions and issues. Not infrequently their quick wit has mitigated any system-related frustration.

Thank you to **Vanessa Burch** for the support in HR related questions.

Thank you to **Barbara Schär** and the team in the finance department for answering our questions and for the support. A special thank you for making the time to come to our office and for meeting us in person.

swissuniversities

University of Bern
Graduate School for Cellular and Biomedical Sciences (GCB)
Mittelstrasse 43
3012 Bern

Telephone
+41 31 684 59 61

Email
info.gcb@unibe.ch

Website
<https://www.gcb.unibe.ch/>