

Annual Report GCB 2023

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

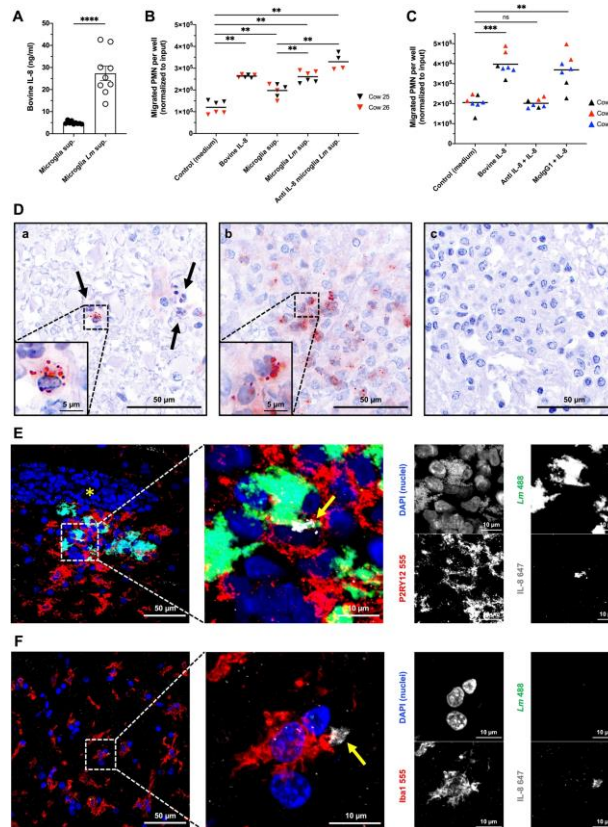


Figure 4

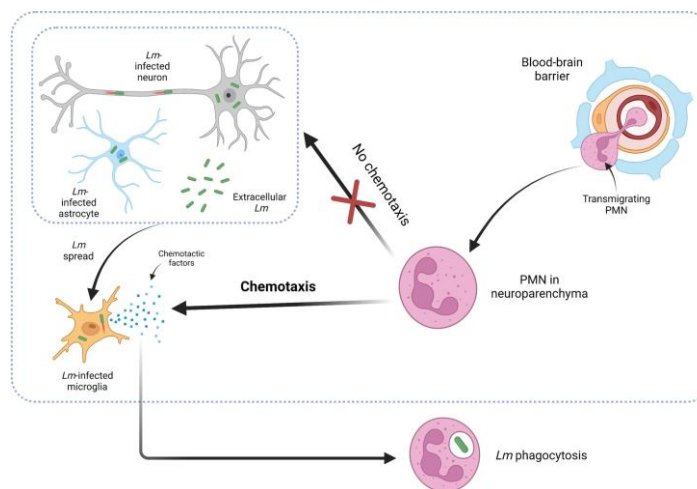


Figure 5

Figures 4, 5. Bovine neutrophil chemotaxis to *Listeria monocytogenes* in neuroinflammation depends on microglia-released rather than bacterial factors - Journal of Neuroinflammation [neuroinflammation.biomedcentral.com](https://doi.org/10.1186/s12974-023-03111-1). Stefano Bagatella^{1,2}, Neda Haghayegh Jahromi³, Camille Monney¹, Margherita Polidori^{1,2}, Flavio Max Gall⁴, Emma Marchionatti⁵, Fabienne Serra⁶, Rainer Riedl⁴, Britta Engelhardt³, Anna Oevermann⁷

Table of Contents

Annual Report GCB 2023		1
1.	Introduction	3
1.1	Letter from the President	3
2.	Vision & Mission	4
2.1	GCB Offices, Mittelstrasse 43, 3012 Bern	5
3.	Organization	6
3.1	Organization Chart	6
3.2	PhD & Expert Committee Organization	6
3.3	Mentor Guidelines	8
3.4	Mentor Prizes and Honors	9
4.	PhD Program	10
4.1	PhD Program Structure	10
4.2	PhD & DVM Curriculum	10
4.3	MD, PhD Program & Curriculum	11
4.4	PhD Specializations	13
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
6.	GCB Academic Events	24
6.1	Annual Symposium	24
6.2	Graduations	27
6.3	Student Awards & Recognitions	40
7.	Facts and Figures	48
7.1	Highlights 2023 Graduates	48
7.2	Five-Year Figures (2019-2022)	51
8.	Digital Presence	52
8.1	Communication and social media	52
9.	Acknowledgments	53

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1. Introduction

1.1 Letter from the President

Dear colleagues

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The year 2023 was another successful year for the Graduate School for Cellular and Biomedical Sciences (GCB). In the following pages of the Annual Report, you will find the most important details of the activities of the GCB in 2023. We welcomed 142 new applicants and celebrated 127 graduations during the same period. As in previous years, the number of registered PhD students remained relatively stable, with 547 students enrolled at the end of 2023. This means an increasing workload not only for the coordinator and the administrative staff, but also for the PhD Committee and the various expert committees, as well as for all the colleagues who act as mentors, often for several students in parallel. The excellent cooperation at all levels within the GCB was the key to the optimal support of our students and their supervisors. Even in 2023, some students had to deal with project delays and experienced further effects of the Covid 19 pandemic in 2020 - 2021. This is reflected in the steadily increasing median years to graduation, from 3.58 in 2019 to 3.92 in 2023. The GCB leadership was able to find fair solutions for the affected students, allowing them to complete their projects and graduate. We are grateful to the administration of the University of Bern and the three faculties (Medicine, Science and Vetsuisse) for their tremendous commitment and support to the GCB. With their help, we have been able to solve most of the problems related to the increasing workload. We are proud to have sponsored 91 financial aid packages, allowing our PhD students to attend national and international conferences and present their research to peers in their respective fields, gaining valuable scientific input while networking. Overall, the scientific output in 2023 resulted in 247 peer-reviewed publications. We have been fortunate to see positive results from the ILIAS GCB101 platform, where instructional videos and tools to increase transparency and improve communication (e.g. GCB processes, news, etc.) have grown to a membership of over 600 students, supervisors, and mentors. This will certainly allow us to focus on pursuing the vision and mission of the GCB. In particular, we will focus on increasing the recognition and visibility of the GCB to continue to attract highly motivated students, build networks and connections, and serve as a conduit to agencies and organizations relevant to all students: prospective, current, or recent graduates. I invite you to learn more about the activities of the GCB in 2023 by reading the following pages. We are very much looking forward to hosting the GCB Symposium again in person on Thursday, June 27, 2024, at the University of Bern's VonRoll buildings (Fabrikstrasse 6 & 8) and look forward to welcoming you all.

Prof. Dr. Sebastian Leidel



President, GCB PhD Committee

2. Vision & Mission

Vision and Mission Statement

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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.

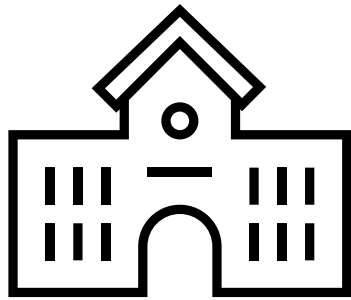
MISSION

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.

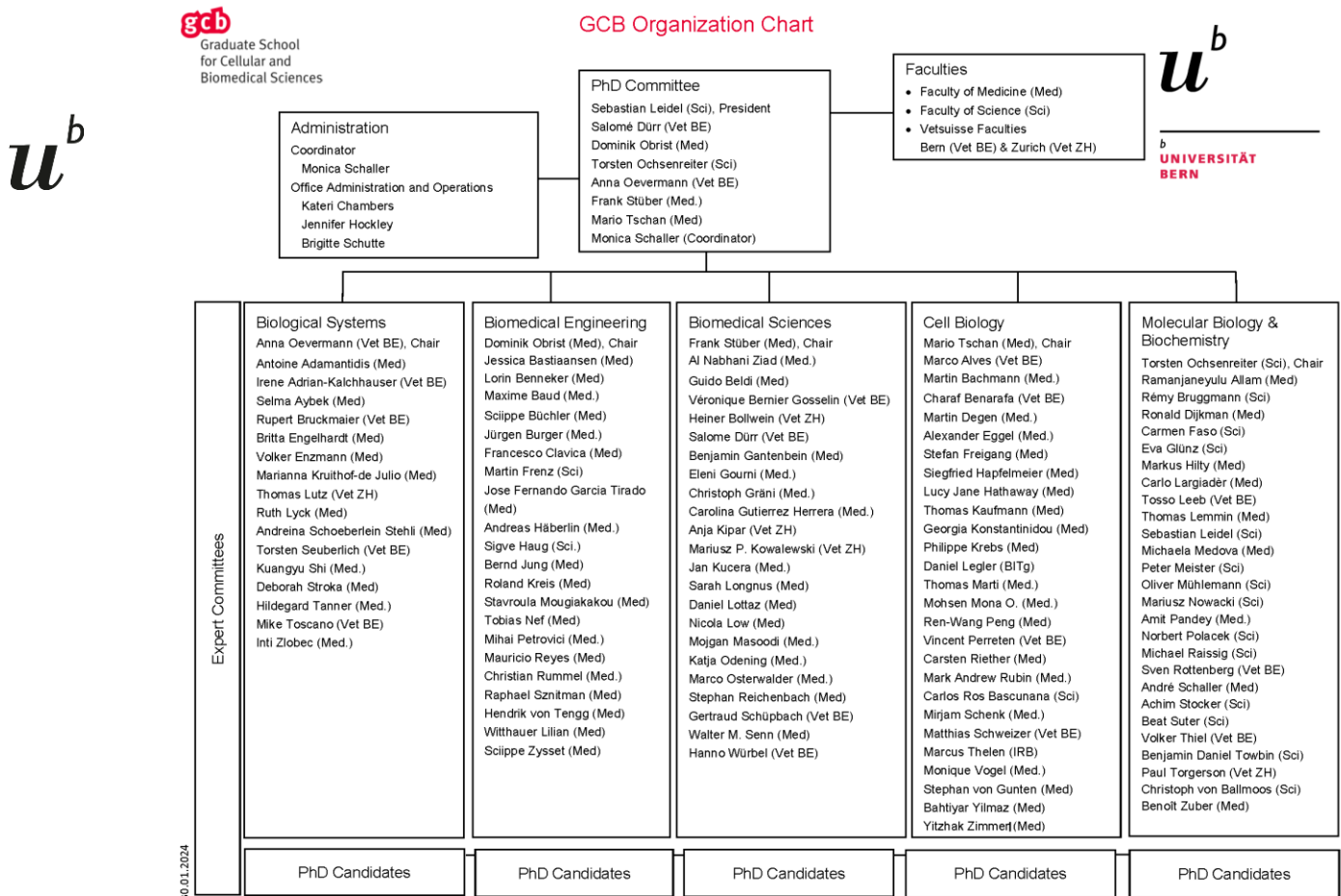
2.1 GCB Offices, Mittelstrasse 43, 3012 Bern

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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 2023 is shown on the previous page.

3.2.1 2023 Expert committee membership changes

Biological Systems	Biomedical Engineering	Biomedical Sciences	Cell Biology	Molecular Biology & Biochemistry
Joined				
Michael Toscano	José Fernando Garcia Tirado	Eleni Gourni	Mirjam Schenk	Eva Glünz
	Christian Rummel	Christoph Gräni	Martin Degen	Thomas Lemmin
	Maxime Baud	Ziad Al Nabhani	Mona O. Mohsen	Michael Raissig
	Mihai Petrovici	Marco Osterwalder	Bahtiyar Yilmaz	Amit Pandey
	Christoph Koch	Katja Odening		
		Salome Dürr*		
Resigned and/or retired				
Wilhelm Wimmer	Martin Frenz	Taulant Muka	Giuseppe Bertoni	Beat Suter
		Rupert Bruckmaier	Monique Vogel	
		Daniela Schweizer		

*Joined PhD steering committee

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 the GCB, Faculties of Medicine, Science and Vetsuisse.

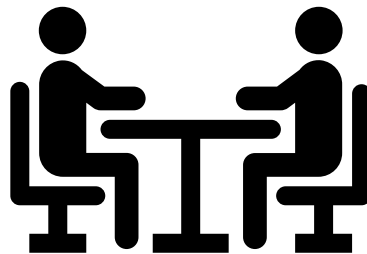
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General duties and responsibilities of the mentor:

- 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 Mentor Prizes and Honors

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Prof. Britta Engelhardt was awarded the Malpighi Medal of the European Society of Microcirculation at the 32nd ESM Meeting in Aarhus, Denmark in April 2023.

The Malpighi Medal is the most prestigious award of the ESM given to an individual of internationally outstanding reputation in any field of microcirculation research. Britta Engelhardt received this award for her contributions on central nervous system microcirculation.

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 the laboratories of the three participating faculties (Faculty of Medicine, Faculty of Science, and Vetsuisse Faculties, Bern, and Zurich) or at affiliated institutions. In 2023, these included:

- Agroscope, Veterinary Physiology, Vetsuisse Faculty
- AO Research Institute, Davos
- Biberach university of applied sciences
- Biotechnologie Institut Thurgau (BITg)
- CAScination AG, Bern
- Centre for fish and Wildlife Health (FIWI)
- Center for Translational Medicine and Biomedical Entrepreneurship sitem
- Department of HIV and AIDS, Malawi Ministry of Health
- Institute for Research in Biomedicine (IRB), Bellinzona
- 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)
- Laboratory for Biomedical Neurosciences (LBN), Torricella-Taverne
- Makerere University
- ProKanDo GmbH
- Schweizer Paraplegiker Zentrum, Radiologie
- Swiss Institute of Equine Medicine, Bern
- Veterinary Public Health Institute (VPH), Liebefeld

4.1 PhD Program Structure

Each PhD candidate is supervised by a thesis committee consisting of supervisor, co-advisor, and mentor (a member of the appropriate GCB expert committee). 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.



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

A limited number of fellowships are available for PhD work, which are awarded by the Swiss Academy of Medical Sciences (SAMS) and the Swiss National Science Foundation (SNSF) with the assistance of private foundations within the framework of the [National MD-PhD grants program](#). In 2023, four of five GCB candidates were awarded a fellowship.

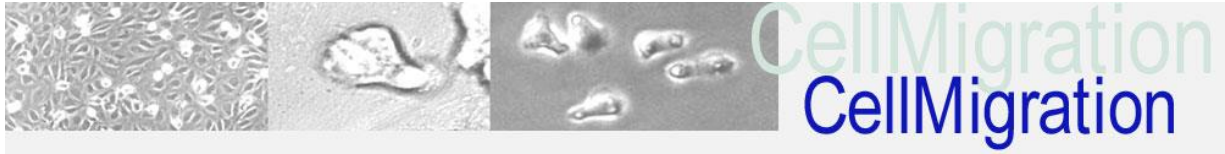
Fifteen (15) National MD-PhD Grants were awarded by the SAMW (Schweizerische Akademie der Medizinischen Wissenschaften) this year. The GCB is proud to report that that **Damian Bürgin, Jan Franzen, Sebastian Jordi** and **Sarah Peisl** were each awarded an individual grant which represents the most awards for the GCB in one grant year. The GCB heartily congratulates all four recipients.

1. **Damian Bürgin's** national MD,PhD grant «The functional role of CD93 in multiple myeloma» will be sponsored by Krebsforschung Schweiz (KFS), SAMS grant Nr: MD-PhD 02/23
Awarded amount: CHF 190'851.–
Duration: 01.09.2023 – 31.08.2026 (36 months)
2. **Jan Franzen's** national MD,PhD grant «Identification and functional characterization of novel Clostridium perfringens hemolysin-like beta-pore-forming toxins» will be sponsored by the Forschungsstiftung Zinkernagel, SAMS grant Nr: MD-PhD 03/23
Awarded amount: CHF 127'234.–
Duration: 01.09.2023 – 31.08.2025 (24 months)
3. **Sebastian Jordi's** national MD,PhD grant «Metabolic dynamics of the small intestinal microbiota upon nutritional challenges» will be sponsored by the Swiss Academy of Medical Sciences (SAMS). SAMS grant Nr: MD-PhD 04/23
Awarded amount: CHF 132'536.–
Duration: 01.09.2023 – 30.09.2025 (25 months)
4. **Sarah Preisl's** national MDPhD grant «Role of biliary microbiota in biliary injury and the development of cholangiopathy» will be sponsored by the Swiss Academy of Medical Sciences (SAMS). SAMS grant Nr: MD-PhD 05/23
Awarded amount: CHF 190'851.–
Duration: 01.09.2023 – 31.08.2026 (36 months)

SAMS has announced the fellowship program is ending in 2024.

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 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 will be renamed to “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](#).

New (from 2023) PhD Specializations

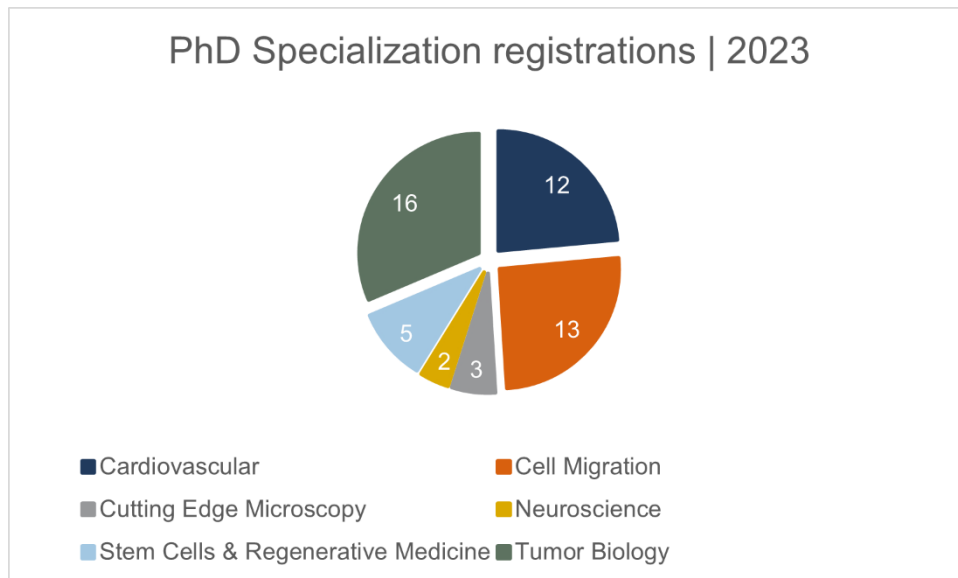


4.4.5 Cardiovascular Research PhD Program

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 a special diploma supplement detailing the additional coursework and effort to achieve of the Cardiovascular Research specialization 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](#)

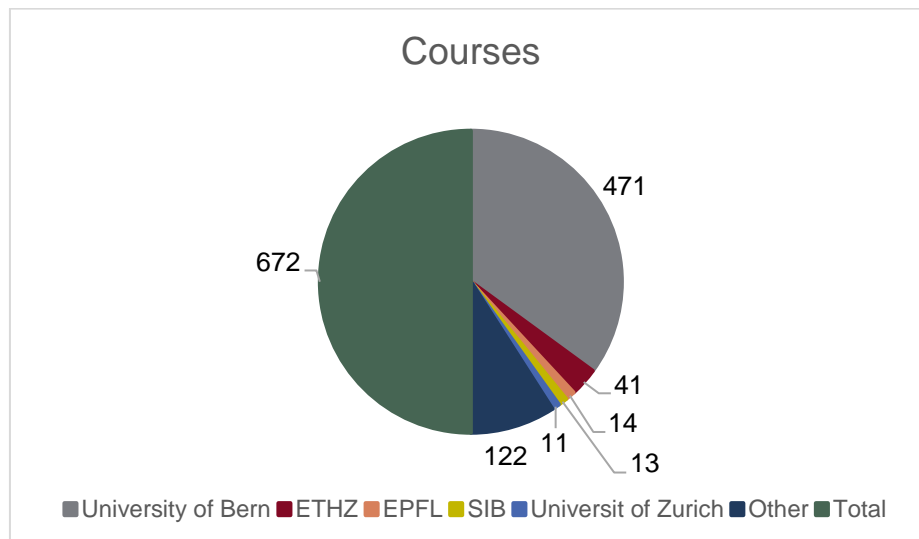
4.4.6 Neuroscience PhD Program

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.



5. Courses & Seminars

5.1 Individual Study Program



The individual 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 672 Lectures, Tutorials, and Book Clubs. Of those, 471 (70%) were offered by the University of Bern institutes, 41 (8%) took place at ETH Zürich (Eidgenössische Technische Hochschule Zürich), 14 (3%) at EPFL (École Polytechnique Fédéral de Lausanne), 13 (2%) Swiss Bioinformatics Institute (SIB), 11 (2%) University of Zurich and 122 (23%) were fewer than 3 instances from other institutions. The GCB sponsors many courses*.

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. Endimiaro, S. and others)
- **Topics in Tumor Biology** (D. Stroka, M. P. Tschan, & Y. Zimmer)
- 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)

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 Cardiovascular Research PhD Specialization: Student Retreat 2023



The new Cardiovascular Research PhD Specialization Program was successfully initiated in early 2023 and collaborates with three partner programs, namely the Cardiovascular and Metabolism PhD Program (University of Lausanne), the Cardiovascular / Human Cardiovascular Sciences PhD Program (Università della Svizzera Italiana) and the Atherosclerosis PhD Program (Ludwig-Maximilians-Universität & Technical University Munich).

On November 17, 2023, the first Student Retreat of the new Cardiovascular Research PhD Specialization Program took place at Gurten Park in Bern. We are happy to announce that this first Student Retreat exceeded our expectations with 18 participating students, including seven from some of the partner programs. In the morning, students gave flash presentations of their research work. In the afternoon, there was an interactive workshop on practical aspects of statistics led by Dr. Frédéric Schütz, Head of the Biostatistics Platform, Swiss Institute of Bioinformatics / University of Lausanne. As part of this dynamic workshop, individual statistics questions submitted by the students in advance were discussed. During the coffee and lunch breaks, there was time for casual networking among the students.

The best student presentations were chosen by the students themselves (audience prize). Congratulations to the winners: 1st Place, Saranda Nimani (Translational Cardiology, Departments of Physiology & Cardiology, University of Bern), 2nd Place, Iliaria Barison (Cardiocentro Ticino Institute, Università della Svizzera Italiana), and 3rd Place, Selianne Graf (Department for Cardiac Surgery & Department for BioMedical Research, University of Bern). We would like to express our appreciation to the University of Bern for the financial support of the Cardiovascular Research PhD Specialization Program (Förderprogramm “Doktoratsprogramme / Graduate Schools Universität Bern 2021-2024”), which made this retreat possible. We would also like to thank the Cardiovascular Research Cluster (CVRC) Bern for organizing this retreat, namely Dr. Maria Arnold, Ms. Daniela Castillo, Prof. Sarah Longnus and Prof. Katja Odening. And of course, a big thank-you to all participating students who made this retreat a fruitful and enjoyable event! We are already looking forward to the next retreat.

5.4.2 Highlights of the CEM program in 2023

CEM Study Trip

In February 2023, a study trip took the CEM PhD students to Freiburg i.B., Germany. Here, the students visited the Life Imaging Center (LIC) of the University of Freiburg. The institute is headed by Dr. Roland Nitschke, who warmly welcomed the students and led them through the 2-day program together with his team. A relaxing tour through the beautiful city center of Freiburg i.B. completed the program. Read more about the study trip of the CEM PhD students to Freiburg in the [linked pdf report](#).



Figure 1. CEM study trip to the Life Imaging Center, University of Freiburg, Germany, in February 2023.

CEM Summer School



Figure 2. CEM Summer School 2024 in Bönigen.

From July 6 to 7, 2023, the annual summer school of the CEM PhD program took place in beautiful Bönigen on Lake Brienz. The students gave scientific presentations on their projects, focusing on microscopy and the results obtained with it. To create a lively atmosphere, these presentations were given in groups and the microscopy skills were presented as a joint presentation. This new format was much appreciated by all participants. The even livelier review of the scientific part of the summer school took the form of a quiz where each student contributed to a pool of questions that covered all the presentations. MIS microscopy specialists Fabian Blank and Yury Belyaev, MIS bioimaging specialist Guillaume Witz and the co-directors of the CEM PhD program, Benoît Zuber and Steven Proulx, gave advice on how to integrate microscopy into projects. Ruth Lyck, the coordinator of the CEM doctoral programme, was responsible for the quiz and the organization of the trip. Besides the scientific program, a discussion about the upcoming activities of the CEM PhD program took place and the new CEM student representatives Adrian Madarasz and Marwa Mangattu Parambil were elected. Another much appreciated activity was the visit of the Leica Microsystems representatives, Annette Rinck, CEO, and Michael Weuffen, Service Manager. The beautiful landscape, the pleasant accommodation and free time to swim in Lake Brienz or go jogging contributed to a perfect learning atmosphere.



In September 2023, the 10th edition of the SCRM PhD Students Retreat unfolded at Gurten Park in Bern. We were thrilled to have Prof. Andreina Schoeberlein, SCRM Platform Lead and Co-Research Director of the Research Laboratory of Prenatal Medicine at the University Clinic of Obstetrics and Feto-maternal Medicine, Inselspital and the University of Bern, as our academic mentor and Dr. Lorenzo Leoni, Managing Partner at TiVentures, entrepreneur, and founder of several biotechnology companies, as our industry mentor. The event provided the opportunity to connect with fellow students and spend the day together. 18 students participated of which 13 presented their work. The student presentations sparked engaging scientific discussions, leading to a rich exchange of ideas. The coffee breaks, lunch, and closing Apéro served as fitting moments for networking and establishing connections, and the relaxed atmosphere allowed students to interact with their peers, mentors, and professors from the SCRM committee.

The success of this event inspired us, and we hope for continued keen participation from students in the future. We extend a heartfelt thank you to the mentors for their invaluable support during the retreat. Dr. Leoni's keynote lecture was very inspiring and offered the participants a better insight into potential translation of their research into practical applications. Moreover, they got a better insight into biotech industry career pathways. Prof. Schoeberlein stepped in at the last minute, covering for the original academic mentor, Prof. Anna Cereseto, who unfortunately had to cancel last minute. Prof. Schoeberlein's talk was very motivational, which created a positive environment where the students felt safe to open about their own experiences in academia and ultimately led to a lively discussion.

Special gratitude is extended to PD Dr. Amiq Gazdhar, Prof. Volker Enzmann, Prof. Benjamin Gantenbein, and Prof. Eliane Müller, who contributed to interesting discussions.

Our deep appreciation is owed to the SCRM, the GCB, and CSL Behring for their financial support in organizing the retreat. We would also like to thank the SCRM Office for its organizational support and the students for their enthusiastic participation. Looking ahead, we eagerly anticipate welcoming interested students to our next retreat in September 2024, confident that it will continue to be a platform for meaningful connections and academic growth.

On behalf of the Organizing Committee 2023

Aínhua Asensio Aldave, Francesco Bonollo, Siavash Rahimi, Vedat Burak Ozan

5.4.4 SMPA Annual Conference in Murten



The annual conference was held in the picturesque town of Murten (Fribourg) on the 23rd and 24th of June, drawing in more than 40 participants. This year's focus revolved around "Novel approaches to unresolved challenges," featuring keynote lectures delivered by MD-PhD Jonas Lötscher, Dr. Madiha Derouazi, and Prof. Botond Rotska, which were met with great enthusiasm.

The event received an impressive array of abstract submissions, with 23 students showcasing their work through oral presentations. Cédric Renaud from Geneva clinched the Best Presentation Prize, marking a highlight of the conference. Noteworthy was the workshop led by PD Dr. Lukas Boeck, a pneumologist at the University Hospital Basel and a principal investigator at the Department of Biomedicine, University of Basel. His session on grant writing aimed to equip participants with essential tools for future grant applications, leveraging his expertise garnered from receiving an SNF Ambizione Grant in 2018.

A pivotal moment occurred during the round table discussion, featuring heads of Swiss MD-PhD programs including Prof. Adriano Aguzzi (Zurich), Prof. Christoph Hess (Basel), PD Dr. Monika Schaller (Bern), Prof. Lucia Mazzolai (Lausanne), and Prof. Nino Künzli (Basel). Notably, Prof. Hanns Ulrich Zeilhofer from the Swiss Academy of Medical Sciences (SAMW) joined the discourse this year.

Beyond scientific endeavors, the SMPA annual conference provided a platform for MD-PhD students nationwide to foster connections. Engaging discussions, collaborative efforts, and a spirited pub quiz following dinner reflected the vibrant atmosphere of the gathering. The organizers expressed their hope that attendees found the conference enriching and look forward to future participation.

During the General Assembly held within the conference, a new board was elected for the term 2023-2024. The incoming board expresses gratitude to SMPA members for their confidence and anticipates serving the Swiss MD-PhD community with dedication. They extend an invitation to forthcoming events throughout the upcoming year, aiming to facilitate continued engagement and collaboration among members.



The PhD specialization in Tumor Biology is already a longstanding trainee program organized by the leading cancer researchers who have established the Bern Cancer Research Cluster.

Besides the weekly Progress Report and the monthly Journal Club, the BCRC meets once a year for an Annual Retreat as an active research exchange and networking event. On Monday, 26 June 2023 90 members of the community reunited on the Bernese home mountain Gurten to a research-focused, vivid, and fruitful retreat. This event was made possible with generous sponsoring from the Bern Center for Precision Medicine (<https://www.bcpm.unibe.ch>) and support from the Graduate School for Cellular and Biomedical Sciences (GCB). The program consisted of 28 poster presentations and 11 research talks presented by PhD, and MD, PhD students and comprised a broad spectrum of cancer research from basic wet lab-focused to translational cancer projects. The posters were rated by an expert jury of the BCRC and the 3 best research data-presenting posters were acknowledged and honored with a prize. In the morning and in the afternoon two invited speakers presented informative data in the field of urology. Prof. Dr. med. George Thalmann, Chairman of the Department of Urology at the Inselspital presented an interesting overview of the surgical complexity in urology and how why he as an MD is interested in basic research. After the lunch break, Prof. Dr. Ian Mills, John Black Associate Professor of Prostate Cancer at the University of Oxford, and Professor of Translational Prostate Cancer Biology at the Queen's University highlighted in his talk the cellular mechanisms in the emergence and progression of prostate cancer. The meeting gave young researchers the opportunity to present, explain and talk about their experimental analysis and findings, widen their horizons thanks to the vast number of different presented cancer projects and discuss with the interdisciplinary Bernese Cancer Cluster the current cancer research focuses.



The summer school spanned three days, from Monday 20 to Wednesday 22 August 2023, directly on the shores of Lake Brienz in Bönigen. The meeting brought together an international delegation of researchers with interests in pharmacology and interfacing disciplines. Keynote lectures given by seven invited speakers, along with those of the six young researcher talks and the six presentation posters were informative and created platform for formal and informal scientific discussions. Students and young researchers received inputs on their own work and learned how principal investigators design projects. Promoting future scientific cooperation between the participating groups is one of the significant goals of the meeting.

The International summer school is an accredited course of the Graduate School for Cellular and Biomedical Sciences of the University of Bern (1.0 ECTS). Like previous editions, the International Summer School was a real success, with high-level scientific discussions on cutting-edge advances in the fields of pharmacology and interfacing disciplines.





The 12th “Swiss Apoptosis and Autophagy Meeting” (SA2M) was held on September 7-8, 2023, in the Langhans Auditorium of the Institute of Tissue Medicine and Pathology of the University of Bern. As for the past editions of this in the scientific community well established conference Prof. Thomas Kaufmann from the Institute of Pharmacology and Prof. Mario Tschan from the Institute of Tissue Medicine and Pathology, University of Bern, as well as Prof. Thomas Brunner from the University of Konstanz (D) were responsible for the organization of the conference and the program. The 12th edition of the SA2M was co-organized with the French Autophagy Society, headed by Prof. Sophie Pattingre (University of Montpellier, F). As in the past, registration and participation at the SA2M were free of charge and costs as the costs of the conference were covered by sponsors and foundations. With this measure the organizers aim to attract many young scientists to this international conference and thereby promote their scientific development.

The SA2M 2023 started with a longstanding tradition, namely a satellite symposium dedicated to the teaching of PhD students and young postdocs (115 participants). This satellite symposium was kindly supported by the Graduate School for Cellular and Biomedical Sciences (University of Bern) and Life Sciences Switzerland and included a series of lectures by international experts in the field of cell death and autophagy. Students and postdocs were given the opportunity to present their own research in flash talks.

The main program of the SA2M 2023 included a number of scientific sessions with 13 invited internationally renowned speakers covering various aspects of cell death and autophagy in health and disease. In a keynote lecture Marcus Conrad from the Helmholtz Institute in Munich highlighted the complexity and relevance of ferroptotic cell death in health and disease. Additional presentation slots gave mainly junior scientists the opportunity to present their own research projects and discuss their results with experts in the field (in total 27 presentations). A highlight of every SA2M was the poster session at the end of the first day for the informal exchange of data and experiences among scientists (50 poster presentations). Best poster and oral presentations by junior scientists were also awarded by prizes. The evening was then rounded up with a conference dinner and party at the Binzgut in Bümpliz in a relaxed atmosphere. Like previous editions, the 12th SA2M was a great success and fostered the scientific education and interactions of young and experienced scientists in the broader field of cell death and autophagy (in total 149 participants). The organizers are thus very grateful for the generous support by the Graduate School of Cellular and Biomedical Sciences.

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. Additionally, the symposium facilitates opportunities for active networking among peers and senior researchers.

The GCB Symposium 2023 was held in person for the first time since the Covid19 pandemic disrupted in person events (the previous most recent in person symposium was in January 2020). The event was moved to a June date at the Uni von Roll. A record (nearly 300) number of participants were involved due to the additional space. Presentations included: **80 talks, 147 flash talks, and 165 posters**. 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. Partner programs, Life Sciences² and Swiss MD,PhD Association were also present with posters.

Again in 2023, the PhD Committee generously awarded three best thesis prizes for the 2022 theses.



Left to right: S. Aeschlimann, M. Schaller, S. Weber, S. Melgrati

- Salome Johanna Aeschlimann (Science Faculty, PhD in Molecular Biology and Biochemistry, expert committee Molecular Biology and Biochemistry)
- Serena Melgrati (Medical Faculty, PhD in Immunology, from the expert committee Cell Biology)
- Samantha Weber (Medical Faculty, PhD in Neuroscience, from the expert committee Biological Systems)

Additionally, the GCB introduced a “people’s choice award” category. 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 2023 GCB annual symposium.

More than one winner reflects a vote tie.



Biological Systems: Talk - Simona Vincenti, Flash Talk - Mariafrancesca Petrucci & Jasmin Galli

Biomedical Engineering: Talk - Lars Doorenbos, Flash Talk - Chiara Rodella.

Biomedical Sciences: Talk - Oleksiy-Zakhar Khoma & Simone Bellini, Flash Talk - Filipe Maximiano Sousa.

Cell Biology: Talk - Ines de Paula Costa Monteiro, Flash Talk - Romano Josi, Juening Kang, Jun Xu, and Francesco Bonollo.

Molecular Biology & Biochemistry: Talk - Taina Kaiponen, Flash Talk - Bianca Manuela Berger and Philipp Müller.



Professor Dr. Francesca Peri
Department of Molecular Life Sciences
University of Zurich

Francesca Peri was born in Mestre, near Venice (Italy). She studied Biology, and she graduated from the University of Padova (Italy). For her PhD, Francesca moved to Cologne in Germany where she worked with Siegfried Roth on the establishment of the dorsoventral and anteroposterior polarity in *Drosophila*. After obtaining her PhD in 2001, she joined the lab of Christiane Nüsslein-Volhard at the Max-Planck Institute for Developmental Biology in Tübingen (Germany). During her postdoc, she started working on how microglia, the brain immune cells, engulf and digest dying neurons using zebrafish. In 2008 Francesca became a group leader at the European Molecular Biology Laboratory (EMBL) in Heidelberg. She received an ERC Starting grant in 2010 and her lab continued exploiting the massive imaging potential of the transparent fish embryo to investigate microglia and their interaction with neurons. Since 2018 Francesca is a Full Professor at the University of Zürich.

6.1.1.1 Abstract from Keynote Address

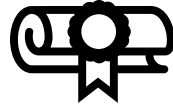
Brain imaging across scales: investigating neuronal-microglial interactions in development and disease

During brain development, neuronal precursors are produced in large excess. Only those cells that form functional connections survive, while the vast majority undergo apoptosis and are removed by microglia. Although effective processing of these neurons is essential, the underlying cellular mechanisms are poorly understood. We have shown that neuronal cargo processing is dependent on the shrinkage and packaging of microglial phagosomes into a unique cellular compartment, the gastrosome, with distinct molecular and ultrastructural characteristics. In the absence of the transporter *Slc37a2*, phagosome shrinkage is blocked, resulting in the expansion of the gastrosome and dramatic cellular bloating. In turn, this affects the ability of microglia to phagocytose and migrate toward brain injuries. Therefore, microglia must be able to regulate uptake and maintain their functional morphology and surface area. We have found that the translocation of the microglial centrosome towards forming phagosomes contributes to controlling the rate of neuronal removal in these cells. Experimentally doubling centrosomal numbers in microglia increases the rate of engulfment, providing direct support for a model where centrosomal migration is a rate-limiting step in neuronal removal by microglia. These findings provide powerful ways to affect microglia and modulate the impact these cells have in the context of many neurodegenerative disorders.

6.2 Graduations

Medical Faculty diploma ceremony for 2022 graduates held in March 2023. Adrian Moser photography ©2023
GCB graduates upper left, bottom left. GCB Coordinator, PD Dr. Monica Schaller, right.





A

Christina Andronikou, PhD in Cell Biology (September 21)

Animal Pathology, DIP, Vetsuisse Bern (Prof. Sven Rottenberg)

«Understanding and overcoming PARP inhibitor resistance: A focus on BRCA1/2 restoration-independent mechanisms»

Marc Artinger, PhD in Cell Biology (May 4)

Biotechnology Institute Thurgau (BITg), Medical Faculty (Prof. Dr. Daniel Legler)

«The CCR7 glycolyx shape in controlling receptor function and ligand recognition»

B

Chantal Lea Bachmann, PhD in Immunology (August 10)

Department for BioMedical Research (DBMR), Medical Faculty (Prof. Dr. med. Adrian Ochsenbein)

«Immune-Checkpoints in the Regulation of Leukemia and Cancer Stem Cells»

Flora Bahrami, PhD in Biomedical Engineering (December 05)

Empa Swiss federal Laboratories for Materials Science and Technology, Faculty of Medicine (Prof. Dr. Alex Jean Dommann)

«Physics-based digital twins for tailoring controlled release of transdermal drug delivery»

Mengjing Bao, PhD in Cell Biology (May 31)

Institute of Cell Biology, Faculty of Science (Prof. Dr. Beat Suter)

«Modifications of C-terminal tails of α -tubulins and their importance for microtubule function in vivo»

Talia Bergaglio, PhD in Biomedical Sciences (December 08)

Empa Dübendorf, Medical Faculty (Prof. Dr. Alex Jean Dommann)

«Chemical effects on blood studied using label-free nanoscale analytics»

Raphael Nicola Beyeler, PhD in Cell Biology (September 12)

Institute of Cell Biology, Science Faculty (Prof. Dr. Volker Heussler)

«Molecular chaperones of Plasmodium berghei: Regulators of Sporogony and Liver Stage Development»

Ida Luisa Boccalaro, PhD in Neurosciences (April 21)

Department for BioMedical Research, Forschungsgruppe Neurologie, Medical Faculty (Prof. Dr. Antoine Roger Adamantidis)

«A role for the medio-dorsal thalamus in sensory discrimination during sleep»

Mey Boukenna, PhD in Biomedical Sciences (May 10)

Institute of Biochemistry and Molecular Medicine (IBMM), Medical Faculty (Prof. Dr. Gugues Abriel, PD Dr. Jean-Sébastien Rougier)

«TRPM4: An ion channel at the intersection of cardiac electrophysiology and immunology»

Irina Bregy, PhD in Biochemistry and Molecular Biology (March 27)

Institute of Anatomy, Faculty of Medicine (Prof. Dr. Torsten Ochsenreiter, Prof. Dr. Benoît Zuber)

«structural and conceptual insights into mitochondrial DNA maintenance in *Trypanosoma brucei*»

Francis Brühlmann, PhD in Cell Biology (February 15)
Institute of Animal Pathology, Vetsuisse Faculty Bern (PD Dr. Philipp Alexander Olias)
«*Theileria* effectors transforming host cells into cancer-like cells»

Sébastien Buchwalder, PhD in Biomedical Engineering (November 21)
sitem Centre for Translational Medicine and Biomedical Entrepreneurship, Medical Faculty (Prof. Dr. Jürgen Burger)
«Development of Innovative Encapsulation Solutions for Implantable Devices»

Christian Burri, PhD in Biomedical Engineering (November 27)
Institute of Applied Physics, Division of Biomedical Photonics, Faculty of Science (Prof. Dr. Martin Frenz)
«Optical coherence tomography controlled selective retina therapy»

C

Milena Sofia Capiglioni, PhD in Biomedical Engineering (August 22)
Neuroradiology/Support Center for Advanced Neuroimaging University Hospital Bern, Medical Faculty (Prof. Dr. Roland Gerhard Rudi Wiest)
«A study on Magnetic Resonance based Neuronal Current Imaging (NCI) techniques for the detection of seizure onset zones in epilepsy»

Tarcisi Cantieni, PhD in Biomedical Engineering (August 11)
Institute for Complementary and Integrative Medicine, Medical Faculty (Prof. Dr. med. Ursula Wolf and Dr. Oliver Kress)
«Textile sensor to measure tissue oxygen saturation»

Carlo Cerquetella, PhD in Neuroscience, (August 08)
Department of Physiology, Medical Faculty (Prof. Dr. Stéphane Pierre Ciocchi)
«Neural circuits for emotional conflicts and decision making in the ventral CA1 hippocampus»

Matthias Theo Christen, DvM PhD (Doctor of Veterinary Medicine and Philosophy) (September 25)
Institute of Genetics, Vetsuisse Bern Faculty, (Prof. Dr. Roger Stephan, Co-supervisor: Prof. Dr. Barbara Willi)
«Genetic analysis of inherited canine neurological disorders»

Christiana-Victoria Cismaru, PhD in Cell Biology (December 08)
Institute for Virology and Immunology, Vetsuisse Bern (Prof. Dr. Gert Zimmer)
«The M2 protein LC3-interacting region and its role in influenza A virus assembly and morphogenesis»

Benedetta Coppe, PhD in Biomedical Science (December 01)
Institute of Anatomy, Medical Faculty (Prof. Dr. Nadia Isabel Mercader Huber)
«The intergenerational investigation of paternal cardiac injury»

Andreas Shaun Croft (June 23)
Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. Benjamin Gantenbein)
«Fibre-based 3D silk fibroin scaffolds for intervertebral disc regeneration»

D

Kira Dassler, DvM PhD (Doctor of Veterinary Medicine and Philosophy) (September 06)
Department for Small Animal Medicine, Vetsuisse Zurich (Prof. Dr. Roger Stephan, Co-supervisor: Prof. Dr. Barbara Willi)
«Antimicrobial resistance: dissemination, prevention and control at the human – companion animal intersect»

Nicolas Rouben Pascal Deperrois, PhD in Neuroscience (January 24)
Physiology, Medical Faculty (Prof. Dr. Walter Senn)
«Learning to Dream, Dreaming to Learn»

Benedetta De Ponte Conti, PhD in Immunology (September 11)
Institute for Research in Biomedicine IRB, Faculty of Medicine (Prof. Fabio Grassi)
«Probing gut-tumor axis during therapy with immune checkpoint inhibitors by modulating intestinal extracellular ATP»

Tafadzwa Gladys Dhokotera, PhD in Biomedical Sciences (August 15)
National Cancer Registry of South Africa, Medical Faculty (Prof. Dr. Julia Friederike Bohlius)
«Leveraging real world data to understand the epidemiology of cervical cancer in women living with HIV in South Africa»

Alice Dudle, PhD in Biomedical Engineering (December 04)
ARTORG Center for Biomedical Engineering Research, Faculty of Medicine (Prof. Dr. Philippe Zysset)
«DXA- and QCT-based modeling of the human proximal femur towards improved hip fracture prediction»

Maria Jose Duque Correa, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (August 30)
Clinic for Zoo Animals, Exotic Pets and Wildlife, Vetsuisse Zurich (Prof. Dr. Marcus Clauss)
«Anatomical, physiological and molecular dietary adaptations in Mammals»

E

Cristian Eduardo Eggers Aracena (June 02)
Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Sebastian Andreas Leidel)
«The impact of wobble U34 tRNA modifications on translation dynamics and protein synthesis»

Ahmed Farid Tawfik Mohamed Elhelbawi, PhD in Biomedical Science (December 04)
Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Sebastian Andreas Leidel)
«The role of *N*⁶-methyladenosine (*m*⁶A) in vertebrate development»

F

Paula Alves Fernandes, PhD in Computational Biology (April 28)
Institute of Cell Biology, Faculty of Science (Prof. Dr. Mariusz Nowacki, Prof. Dr. Isabel Roditi)
«The use of single-cell RNA-seq analysis for the identification and characterization of *Trypanosoma brucei* life-cycle stages»

Matthias Andreas Fontanellaz, PhD in Biomedical Engineering (November 29)
ARTORG Center for Biomedical Engineering Research, Medical Faculty (Prof. Dr. Stavroula Mouggiakakou)
«From diagnosis to prediction: The use of AI in medical decision support»

Federica Angela Franciosa (June 22)
Department of Physiology, Medical Faculty (Prof. Dr. Thomas Nevian)
«The role of layer 5 pyramidal neurons in the anterior cingulate cortex in chronic pain»

G

Lea Gigon, PhD in Immunology (November 21)
Institute of Pharmacology, Medical Faculty (Prof. Dr. Hans-Uwe Simon)
«Synergistic antimicrobial function of eosinophil major basic protein and mitochondrial DNA, two components of eosinophil extracellular traps»

Murielle Koni-Kepo Golomingi, PhD in Biomedical Sciences
Department for BioMedical Research (DBMR), Medical Faculty (Prof. Dr. Verena Schröder)
«Interactions between the complement system and Blood coagulation: a potential role of complement Components and activation during haemostasis»

Martin Gonzalez Fernandez, PhD in Biochemistry and Molecular Biology (December 15)
Department for BioMedical Research (DBMR), Medical Faculty (Prof. Dr. Sven Rottenberg)
«Charting the Chemogenetic Landscape of Taxane Response in BRCA1-Deficient Mammary Tumors»

Pascal Martin Guntern, PhD in Immunology (June 02)
Department for BioMedical Research, Medical Faculty (Prof. Dr. Alexander Eggel)
«Assessment of multifunctional anti-IgE molecules and their modes of action for the treatment of allergic disorders»

Lukas Adrian Gurzeler, PhD in Biochemistry and Molecular Biology (June 16)
Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Oliver Mühlemann)
«Translation Termination: A Checkpoint for Ribosome Quality Control and mRNA Decay»

H

Noëlle Claudia Harte, PhD in Biomedical Engineering (November 16)
ARTORG Center for Biomedical Engineering Research, Medical Faculty (Prof. Dr. Dominik Obrist, Prof. Dr. Wilhelm Wimmer)
«The spiral shape of the cochlea
Transverse flow visualizations and emerging phenomena in idealized models»

Virginia Hill, PhD in Biochemistry and Molecular Biology (March 13)
Institute of Veterinary Bacteriology, Vetsuisse Bern, (Prof. Dr. Jörg Jores)
«Minimalistic mycoplasmas harbour different functional toxin-antitoxin systems»

Aref Hosseini, PhD in Immunology (December 19)
Institute of Pharmacology, Medical Faculty (Prof. Dr. Hans-Uwe Simon)
«The role of eosinophils in the homeostasis of adipose tissue»

Lusine Hovhannisyan, PhD in Biomedical Sciences (August 16)
DBMR Department for BioMedical Research, Radiation Oncology, Medical Faculty (Prof. Dr. Yitzhak Zimmer)
«Combining Radiation with MET-targeted CAR T-cell Therapy for Enhanced Glioblastoma Treatment»

Martin Hofmann, PhD in Biomedical Engineering (May 15)
Insel, Medical Faculty (Prof. Dr. Jürgen Burger)
«Development of a Dental Miniscaler for Prophylactic and Periodontal Care»

Virginia Hill, PhD in Biochemistry and Molecular Biology (March 13)
Institute of Veterinary Bacteriology, Vetsuisse Bern, (Prof. Dr. Jörg Jores)
«Minimalistic mycoplasmas harbour different functional toxin-antitoxin systems»

Marjolaine Claire Hugonnet, PhD in Immunology (December 11)
Institute of Pharmacology, Medical Faculty (Prof. Dr. Stephan von Gunten)
«Sweet control: Sialoglycans in lymphocyte-mediated immunity»

I

Dennis Imhof, PhD in Cell Biology (March 22)
Institute of Parasitology, Faculty of Vetsuisse Bern (Prof. Dr. Andrew Hemphill)
«Vaccine and chemotherapy strategies for the control of toxoplasmosis and neosporosis»

Bloaji Nafisat Isiaka, PhD in Biochemistry and Molecular Biology (May 26)
Institute of Cell Biology, Faculty of Science (Prof. Dr. Pierre Meister)
«Emerging Roles of Structural Maintenance of Chromosomes (SMC) complexes: 3D genome organization, DNA supercoiling and Transcription regulation»

Ena Ivanovic, PhD in Biomedical Engineering (August 31)
Institute of Physiology, Faculty of Science (Prof. Dr. Jan Kucera)
«Three-dimensional computational modelling of cardiac cells electrically interacting via ephaptic coupling»

J

Laura Jahnke, PhD in Neuroscience (June 20)

Institute of Ophthalmology Inselspital Bern, Medical Faculty (Prof. Dr. Volker Enzmann)
«Cross-species comparison of multicellular response during retinal gliosis»

Aleksandra Jejina, PhD in Cell Biology (July 10)

Institute of Cell Biology, Faculty of Science (Prof. Dr. Beat Suter)
«Role of BicDR in bristle shaft construction, tracheal development, and support of BicD functions»

Alex Johny, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (December 14)

Veterinary Public Health Institute, Vetsuisse Bern (PD Dr. Michael Jeffrey Toscano)
«Developing Artificial Stimuli to Encourage Ramp Use in the Early Life of Laying Hens»

K

Cristina Lisa Kalbermatter, PhD in Immunology (January 20)

Department for BioMedical Research (DBMR), Gastroenterology/Mucosal Immunology, Medical Faculty (Prof. Andrew Macpherson, Prof. Dr. Stephanie Christine Ganal-Vonarburg)
«The role of maternal microbiota in shaping intestinal immunity and gene expression in the offspring through epigenetic mechanisms»

Juening Kang, MD PhD (Doctor of Medicine and Philosophy) (December 14)

Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. Marianna Kruithof-de Julio, Dr. Sofia Karkampouna)
«Identifying drug sensitivity of multifocal primary prostate cancer towards personalized screens and treatment decision»

Ali Kazemian, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (July 12)

Institute of Veterinary Anatomy, Vetsuisse Faculty Zurich (Prof. Dr. Mariusz P. Kowalewski)
«In Vitro investigations of antigestagen-mediated effects in decidualized dog uterine stromal (DUS) cells: expression of decidualization markers and global transcriptomic changes»

Sarah Kiener, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (October 13)

Institute of Genetics, Vetsuisse Bern (Prof. Dr. Tosso Leeb)
«Genetic investigation of inherited skin diseases in cats and dogs»

Leon Kleemann, PhD in Biochemistry and Molecular Biology (December 13)

Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Sebastian Andreas Leidel)
«The mechanistic role of human pseudouridine synthase 3 (PUS3) in mRNA translation dynamics»

Tatiana Kochetkova, PhD in Biomedical Engineering (March 23)

Swiss Federal Laboratories for Materials Science and Technology (EMPA), Faculty of Medicine (Prof. Dr. Philippe Zysset)
«Quantifying bone extracellular matrix properties for improved clinical fracture risk prediction»

Manuel Kösters, PhD in Biochemistry and Molecular Biology (December 15)

DCB Department for Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Sebastian Andreas Leidel)
«The influence of mcm⁵s²U on protein translation and turnover»

Konstantinos Koukoutselos, PhD in Neuroscience (April 06)

Department of Physiology, Medical Faculty (Prof. Dr. Stéphane Pierre Ciochi)
«Anticipatory coding of Anxiety in the ventral Hippocampus»

Laura Magdalena Kriener, PhD in Neuroscience (April 24)

Department of Physiology, Medical Faculty (Dr. Mihai Petrovici, Prof. Dr. Walter Senn)
«Deep Learning in Neuronal and Neuromorphic Systems»

Philipp Andreas Kronenberg, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (May 17)

Institute of Parasitology, Vetsuisse Zurich (Prof. Dr. Peter Deplazes)
«Serological and structural diagnosis of alveolar and cystic echinococcosis in human patients»

L

Laura Laloli, PhD in Biochemistry and Molecular Biology (March 03)
Institute of Virology and Immunology, Medical Faculty (PD Dr. Ronald Dijkman)
«Characterization of the innate immune response in the respiratory epithelium of human, porcine, and bovine during influenza virus infection»

Yin Ting Lam, MD PhD (Doctor of Medicine and Philosophy) (September 19)
Institute of Social and Preventive Medicine (ISPM), Medical Faculty (PD Dr. Ben Spycher, Co-supervisor: PD Dr. Myrotora Goutaki)
«Upper respiratory disease and qualitative studies in primary ciliary dyskinesia»

Vera Franziska Lehmann, MD PhD (Doctor of Medicine and Philosophy) (May 16)
Insel, Medical Faculty (Prof. Dr. Christoph Stettler)
«Leveraging Technology to Detect and Prevent Dysglycemia in Diabetes and Beyond – Novel Approaches and Future Directions»

Gregory Loïck Lepeu, PhD in Neuroscience (February 24)
Center for Experimental Neurology, Department of Neurology, Inselspital, Medical Faculty
«Dynamics of Cortical Stability and Seizure Resilience In Vivo»

Ingrid Anna Debora Lind, PhD in Immunology (June 20)
Institute of Virology and Immunology, Vetsuisse Faculty Bern (Prof. Dr. Charaf Benarafa)
«Translation Termination: A Checkpoint for Ribosome Quality Control and mRNA Decay»

M

Roman Alois Mahler, PhD in Biochemistry and Molecular Biology (October 12)
Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Christoph von Ballmoos)
«From a Functional Design to a Functional Role of E. coli CybB - The Journey of an Enzyme Characterisation»

Harpreet Kaur Mandhair, PhD in Biomedical Sciences (November 07)
Department of BioMedical Research (DBMR), Medical Faculty
«Subtype-specific role of autophagy associated protein ULK1 in Diffuse Large B-cell Lymphomas»

Louise Françoise Martin, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (May 15)
Clinic for Zoo Animals, Exotic Pets and Wildlife, Vetsuisse Faculty Zurich (Prof. Dr. Jean-Michel Hatt, Prof. Dr. Marcus Clauss)
«Tooth wear in small herbivorous mammals»

Marina Maurizio, PhD in Biochemistry and Molecular Biology (November 03)
Institute of Animal Pathology, Vetsuisse Faculty Bern
«Identifying essential host proteins for Theileria-induced transformation»

Kemal Mehinagic, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (December 19)
IVI Mittelhäusern, Vetsuisse Faculty Bern (Prof. Dr. Nicolas Ruggli)
«Pathogenesis of African swine fever – a study on viral and host factors»

Joana Filipa Mendes Duarte, PhD in Neuroscience (July 10)
Institute of Physiology, Faculty of Medicine (Stéphane Ciocchi)
"The role of ventral hippocampus in emotional behaviours"

Martina Minoli, PhD in Biomedical Sciences (July 12)
Department for BioMedical Research, Medical Faculty (Prof. Dr. Roland Seiler Blarer, Prof. Dr. Marianna Kruithof de Julio)
«Developing new Tools for Precision Medicine in Bladder Cancer»

Veronika Morozova Korzhenkova, PhD in Biochemistry and Molecular Biology (December 07)
Institute of Biochemistry and Molecular Medicine (IBMM), Medical Faculty (Prof. Dr. Jürg Gertsch)
«LAT1 and Bioactive Lipids in Tumour Progression: From Molecular Interactions to Potential Therapeutic Strategies»

Carmen Muñoz Maldonado, PhD in Cell Biology
Department for BioMedical Research (DBMR), Radiation Oncology, Medical Faculty (PD Dr.phil. Michaela Medova)
«Understanding the DNA damage response and uncovering synthetic interactions in *CHK2*-deficient cancers»

Anastasia Milusev, PhD in Biomedical Sciences (July 06)
Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. Robert Rieben, Dr. Nicoletta Sorvillo)
«Distinct arterial and venous glycocalyx dynamics impact endothelial function»

Philipp Isaak Müller, PhD in Biochemistry and Molecular Biology (December 05)
Department of Chemistry and Biochemistry, Faculty of Science (Prof. Dr. Christoph von Ballmoos)
«Giant Unilamellar Vesicles: A Bottom-Up Cell Mimetic System»

Seyran Mathilde Mutlu, PhD in Biomedical Sciences (April 26)
Lung Precision Medicine (DBMR), Inselspital Bern, Faculty of Medicine (PD. Dr. Fabian Blank and PD. Dr. med. Amiq Gazdhar)
«Adoptive transfer of HGF overexpressing T cells as a potential therapeutic approach in the bleomycin injured mouse lung»

N

Aileen Charlotte Naef, PhD in Biomedical Engineering (November 01)
ARTORG Center for Biomedical Engineering Research, Gerontechnology and Rehabilitation Group, Medical Faculty (Prof. Dr. Tobias Nef)
«The Development, Application, and Evaluation of Virtual Reality Technology to Decrease Sensory Overload and Sensory Deprivation in the Intensive Care Unit Environment»

Malavika Harikrishnan Nambiar, PhD in Biomedical Engineering (November 23)
ARTORG Computational Bioengineering, Faculty of Medicine (Prof. Dr. Philippe Büchler)
«Material Characterization Of The Cornea: Towards Personalised Refractive Interventions»

Seyma Sukran Nayir Jordan, PhD in Biomedical Engineering (April 05)
Department of Physiology, Medical Faculty (Prof. Dr. Jan Kucera)
«How does cardiac tissue strain influence spontaneous electrical activity and beating variability?»

Malavika Harikrishnan Nambiar, PhD in Biomedical Engineering (November 23)
ARTORG Computational Bioengineering, Faculty of Medicine (Prof. Dr. Philippe Büchler)
«Material Characterization Of The Cornea: Towards Personalised Refractive Interventions»

Damian Tobias Nydegger, PhD in Biochemistry and Molecular Biology (August 29)
Nephrology and Hypertension, Department for BioMedical Research (DBMR); Department of Nephrology and Hypertension, Inselspital, Medical Faculty (Prof. Dr. Matthias Hediger)
«The impact of amino acid transporters in diseases: COVID-19 and Colon cancer»

Peter Josef Engelbert Neyer, PhD in Biomedical Sciences (November 24)
Kantonsspital Aarau, Medical Faculty (Prof. Dr. Carlo Rodolfo Largiadèr)
«The role of erythroferrone in iron homeostasis»

O

P

Vivian Pham Vu, PhD in Immunology (May 09)
Institute of Pathology, Medical Faculty (Prof. Dr. Philippe Krebs)
«The Role of IL-33/ST2 Signaling in Inflammation-induced Immunopathologies»

Melissa Phung-Kieu Pitton, PhD in Biomedical Sciences (June 26)
Intensive Care Medicine, University Hospital Bern, Medical Faculty (Prof. Dr. Yok-Ai Que)
«Phage therapy as personalized treatment against chronic bacterial infections»

Kevin Plattner, PhD in Immunology (January 09)
DBMR-Immunology, Faculty of Medicine (Prof. Monique Vogel)
«On the role of IgE glycosylation in the protection against anaphylaxis by IgG anti-IgE antibodies»

Robert Poel, PhD in Biomedical Engineering (October 20)
Department of Radiation Oncology, Inselspital Bern, Faculty of Medicine
«Radiotherapy oriented quality control for deep learning based fully automated segmentation of intracranial targets and organs at risk»

Alice Pontiggia, PhD in Biomedical Sciences (October 25)
Agroscope, Veterinary Physiology, Vetsuisse Faculty, Vetsuisse Bern
«Behavioural indicators of early heat stress in dairy cows in pasture-based systems in Switzerland»

William Robert Pownall, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (March 16)
Department für klinische Veterinärmedizin, Faculty of Vetsuisse Bern (Prof. Dr. Franck Forterre)
«Development of a versatile *Listeria monocytogenes*-based vaccine vector to prevent infectious diseases and treat tumors»

Julia Katrin Prümmer, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (March 29)
Vetsuisse Faculty, Small Animal Clinic, Bern, Vetsuisse Faculty Bern (Prof. Dr. Veronika Maria Stein)
«Immunological characterization of canine immune-mediated meningoencephalitis of unknown origin (MUO)»

Q

R

Sandhya Krishnan Radha Krishnan, PhD in Biochemistry and Molecular Biology (March 20)
Institute of Biochemistry and Molecular Medicine, Faculty of Medicine (Prof. Dr. Jürg Gertsch)
«Investigating the role of *Trypanosoma cruzi* serine hydrolases during infection and chemical biology-driven discovery of trypanocidal coumarins»

Emilia Radulovic, PhD in Immunology (January 13)
Institut of virology and immunology IVI, Vetsuisse Faculty Bern (Prof. Dr. Charaf Benarafa)
«Role of host factors on African swine fever disease course and viral entry»

Constanze Raltschev, PhD in Neurosciences (August 21)
Department of Physiology, Medical Faculty (PD Dr. Shankar Sachidhanandam)
«Neocortical circuits in sensory association and perception in the mouse posterior parietal cortex»

Michael Andreas Rebsamen, PhD in Biomedical Engineering (March 8)
University Institute of Diagnostic and Interventional Neuroradiology, PD Dr. Christian Rummel
«Neuroimaging Biomarkers for Epilepsy using Brain Morphometry and Deep-Learning: Applications to Clinical MRI»

Rudy Rizzo, PhD in Biomedical Engineering (May 22)
MSM, DRNN/DBMR, Medical Faculty (Prof. Dr. Roland Kreis)
«Multiparametric MR Spectroscopy: evaluation of quantitative frameworks based on modeling and deep learning»

Thomas Roder, PhD in Computational Biology (July 03)
Interfaculty Bioinformatics Unit, Faculty of Science (PD Dr. Rémy Bruggmann)
«Decoding Microbial Genomes: Novel User-Friendly Tools Applied to Fermented Foods»

Alicia Romano', PhD in Biomedical Sciences (August 04)
Agroscope, Vetsuisse Faculty Bern (Prof. Dr. Adrian Steiner)
«Analysis of bovine intramammary resistome and of the bacterial transmission within dairy herds»

Yannick Pascal Rösch, PhD in Biomedical Engineering (March 20)
ARTORG Center for Biomedical Engineering Research, Medical Faculty (Prof. Dominik Obrist)
«Efficiency of intracoronary drug infusion into myocardial microcirculation with microvascular obstruction: in vitro study with a multiscale flow model»

Elias Rüfenacht, PhD in Biomedical Engineering (October 24)
Center for Biomedical Engineering Research ARTORG, Faculty of Medicine (Prof. Dr. Mauricio Reyes)
«Data-centric and Clinically relevant AI-based Segmentation of Intracranial Tumors and Organs-at-Risk for Radiotherapy»

S

Sophie Elena Sage, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (September 22)
VetSuisse Faculty ISME Swiss Institute of Equine Medicine, Vetsuisse Bern (Prof. Dr. Vinzenz Gerber)
«Analysis of bronchoalveolar lavage transcriptome profiles of asthmatic horses by single-cell RNA sequencing.»

Raquel Adaia Sandoval Ortega, PhD in Neuroscience (March 27)
Department of Physiology, Medical Faculty (Prof. Dr. Thomas Nevian)
«The Neural Correlates of Pain and Sleep in Health and Disease»

Jonathan Save, PhD in Biomedical Sciences (January 10)
Department of Intensive Care Medicine, Inselspital, Medical Faculty (Prof. Dr. Yoki-Ai Que)
«Evaluation of phage therapy for the treatment of Staphylococcus aureus infective endocarditis»

Basma Tarek Mohammed Amin Sayed, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (July 10)
Institute of Animal Pathology, Vetsuisse Bern (Prof. Dr. Horst Posthaus)
«Identification of cellular proteins required for Clostridium perfringens beta-toxin mediated damage in endothelial cells»

Melanie Scherer, PhD in Biochemistry and Molecular Biology (November 10)
Department of Clinical Research and Veterinary Public Health (DCR-VPH), Vetsuisse Bern (PD Dr. Philippe Plattet)
«Neutralizing multivalent antibodies against viral infections»

Giulia Schilardi, PhD in Biomedical Sciences (July 06)
Department of Physiology, Medical Faculty (Prof. Dr. Sonja Kleinlogel)
«Unravelling changes in ON-bipolar cell signaling during retinal degeneration to optimize optogenetic therapies»

Klaus Schürch, PhD in Biomedical Engineering (April 20)
ARTORG Center, Faculty of Medicine (Prof. Dr. Stefan Weder and Prof. Dr. med. Wilhelm Wimmer)
«Advancements in Electrocochleography: Towards Improved Reliability and Objective Assessment»

Sonia-Emilia Selicean, MD PhD (Doctor of Medicine and Philosophy) (December 12)
Department for Biomedical Research DBMR, Medical Faculty (Prof. Dr. Annalisa Berzigotti, Dr. Jordi Gracia-Sancho)

«Role Of The Stiffness-Derived Molecular Axis In Liver Cirrhosis And Portal Hypertension»

Zoja Selimi, MD PhD (Doctor of Medicine and Philosophy) (August 29)

Department of Physiology, Medical Faculty (Prof. Dr. Jan Kucera)

«Cardiac sodium channels: to interact or not to interact?»

Jan Mateusz Sobczak, PhD in Immunology (November 23)

Department of Immunology, Inselspital, Faculty of Medicine (Prof. Dr. Martin Bachmann)

«Cucumber mosaic virus derived VLPs (CuMVTT) as versatile antigen carriers»

Sasha Giulio Natale Soldati (July 05)

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

«Targeting T-cell migration to the central nervous system in the context of multiple sclerosis»

Frederike Theresa Stöth, PhD in Biochemistry and Molecular Biology (June 01)

Institute of Forensic Medicine, Faculty of Medicine (Prof. Dr. Wolfgang Weinmann)

«Application of the direct alcohol biomarker phosphatidylethanol and microsampling techniques in clinical and forensic settings»

Franziska Silvia Strunz, PhD in Biomedical Sciences (July 17)

DBMR Bone Biology Orthopaedic Research, Medical Faculty (Prof. Dr. Willy Hofstetter)

«The role of bisphosphonates in the healing of critical size defects in osteoporotic bones»

T

Emile Talon, PhD in Biomedical Engineering (December 07)

ARTORG Center for Biomedical Research, Medical Faculty (Prof. Dr. med. Marco Caversaccio, Prof. Wilhelm Wimmer)

«Image-guidance for optimized bone conduction implantation»

Disha Tandon, PhD in Immunology (January 26)

Institute for Infectious Diseases, Medical Faculty (Prof. Dr. Siegfried Hapfelmeier)

«A Microbiota-Dependent Auxotrophic *Salmonella* Typhimurium Vaccine: Bacterial Adaptation and Mucosal Transcriptomic Response in Gnotobiotic Mice»

Shohreh Teimuri, PhD in Cell Biology (July 26)

Institute of Cell Biology, Science Faculty (Prof. Dr. Beat Suter)

«RNA Targets and Functional of Topoisomerase 3 β in Reducing Stress in Neuronal Physiology»

Afroditi Tripyla, MD PhD (Doctor of Medicine and Philosophy) (May 5)

Department of Diabetes, Endocrinology, Clinical Nutrition, Inselspital Bern, Medical Faculty (Prof. Dr. Lia Claudia Bally, Prof. Dr. Christoph Stettler)

«Deciphering the enigma of post-bariatric surgery hypoglycaemia»

Vera Tscherrig, PhD in Biomedical Sciences (December 06)

Department for BioMedical Research DBMR, Medical Faculty (Prof. Dr. med. Daniel Surbek, Prof. Dr. Andreina Schöberlein, Dr. phil. nat. Marianne Jörger Messerli)

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

U

V

Lisette van Os, PhD in Biomedical Sciences (April 27)
ARTORG Center, Faculty of Medicine (Prof. Dr. Olivier Thierry Guenat)
«Immune cell migration during infection in organs-on-chip»

Daniëlle Verschoor, PhD in Immunology (February 10)
Institute of Pharmacology, Medical Faculty (Prof. Dr. Stephan von Gunten)
«Granulocytes; fragile, but resilient Unraveling the treatment resistance of granulocytes»

Bianca Viberti, PhD in Neuroscience (November 17)
Department Biomedical Research (DBMR), Medical Faculty (PD Dr. Markus Helmut Schmidt)
«The role of MCH neurons in gating REM sleep and cataplexy in narcolepsy»

Eduardo Enrique Villar Ortega, PhD in Biomedical Engineering (June 28)
ARTORG Center for Biomedical Engineering, Medical Faculty (Prof. Dr. Laura Marchal Crespo)
«Combining somatosensory stimulation with robotic training to enhance neurorehabilitation»

Emmanouela Volitaki, PhD in Neuroscience (May 15)
Department of Physiology, Medical Faculty (Prof. Dr. Stéphane Pierre Ciocchi)
«Neural Circuits for Anxiety in the Ventral Hippocampus»

Benjamin Voumard, PhD in Biomedical Engineering (April 27)
Musculoskeletal Biomechanics, ARTORG Center for Biomedical Engineering Research, Medical Faculty
(Prof. Dr. Philippe Zysset)
«Biomechanical Investigations of Dental Implant Stability and the Aging Femoral Neck»

W

Cong Wang, MD, PhD (Doctor of Medicine and Philosophy) (October 10)
Department of BioMedical Research, Faculty of Medicine (Prof. Dr. Annalisa Berzigotti, Dr. med. Jordi Sergio Gracia Sancho)
«Role of liver stiffness in the pathophysiology of portal hypertension»

Joel Pascal Werren, PhD in Biomedical Sciences (August 18, 2023)
Institute for infectious diseases, Medical Faculty (PD Dr. Markus Hilty)
«Influence of Carococbon Source Metabolism on Polysaccharide Capsule Synthesis and Virulence in Streptococcus pneumoniae»

Nicole Wildi, DVM PhD (Doctor of Veterinary Medicine and Philosophy) (October 18)
Division of Experimental Clinical Research, DCR-VPH, Vetsuisse Faculty Bern (Prof. Dr. Torsten Seuberlich)
«The Roles of the 5' and 3' Untranslated Regions in Human Astrovirus Replication»

X

Y

Wen Jie Yeoh, PhD in Immunology (August 14)
Institute of Pathology, Medical Faculty (Prof. Dr. Philippe Krebs)
«The Role of Alarmins in Immunoregulation during Lung Inflammation and Viral Infection»

Suhang You, PhD in Biomedical Engineering (May 23)

ARTORG Center for Biomedical Engineering Research, Faculty of Medicine, Medical Faculty (Prof. Dr. Mauricio Reyes)

«Segmentation and Quality Control, Understanding Confounders Leading to Failure Modes in Medical Image Analysis with Deep Learning»

Z

Liang Zhao, MD PhD (Doctor of Medicine and Philosophy) (July 07)

Department of BioMedical Research DBMR, Medical Faculty (Prof. Dr. med. Ralph Schmid, Prof. Dr. Ren-Wang Peng)

«A non-canonical function of LDHB promotes glutathione metabolism and protects against ferroptosis in KRAS-driven lung cancer»

Simon Zinkhan, PhD in Immunology (September 05)

Department of Biomedical Research (DBMR), Faculty of Medicine (Prof. Dr. Monique Vogel)

«On the role of antigen conformation in the regulation of immune responses and allergic disease»

6.3 Student Awards & Recognitions

6.3.1 Best Theses in 2022

Salome Johanna Aeschlimann

Department of Chemistry

Science Faculty

Supervisors: André Schneider

Co-Advisor: Chris Meisinger

Mentor: Torsten Ochsenreiter

From the basal body to the mitochondrial genome: linking up the tripartite attachment complex subunits in *Trypanosoma brucei*

Abstract

The unicellular eukaryote *Trypanosoma brucei* contains a single mitochondrion with a unique single unit mitochondrial genome termed the kinetoplast DNA (kDNA). The kDNA is packed in a dense disk-like structure and consists of two catenated circular DNA species called mini- and maxicircles that form a chainmail-like network. As in conventional mitochondrial genomes, the kDNA mainly encodes for subunits of the oxidative phosphorylation system. Thus, inheritance of the kDNA disk is vital to the cells. Due to its single unit nature, replication and segregation of the kDNA must be tightly regulated with the cell cycle. kDNA segregation is mediated by a physical connection between the kDNA disk and the basal body (BB), another single copy structure that forms the base of the flagellum. This connection is essential for kDNA inheritance and termed the tripartite attachment complex (TAC). My thesis focuses entirely on the TAC of *T. brucei*.

In the first part of this thesis, we focused on p197, the BB most proximal TAC subunit. p197 was identified as TAC protein because its depletion leads to missegregation, over-replication and eventually loss of the kDNA network, a phenotype that is a hallmark for TAC proteins. We could show that single or bundles of equally oriented p197 molecules form the exclusion zone filaments (EZFs) in the cytosolic region of the TAC. Using ultrastructure expansion microscopy, we precisely localized both the N- and the C-terminus of p197 in relation to the BB and the outer mitochondrial membrane (OM). While the C-terminus binds to the mature and the pro BB, the N-terminus localizes to the OM, where it interacts with the peripheral OM-associated TAC subunit, TAC65. Intriguingly, the large central, almost exclusively α -helical domain of p197 determines the distance between the BB and the OM. p197 therefore acts as a flexible spacer molecule that ensures BB-OM connection throughout the entire cell cycle.

In the second part of this thesis, we tried to identify to which subunit of the BB the C-terminus of the TAC subunit p197 binds to. We identified the kinetoplastid-specific BB protein KMP11 as the most promising candidate. Various pull-down experiments strongly suggest that the C-terminus of p197 interacts with KMP11. Furthermore, depletion of KMP11 leads to a slight decrease of p197 at the newly formed pro BB, indicating that KMP11 might be needed for p197 assembly at the pro BB. Altogether these results strongly suggest that KMP11 is the BB protein that connects the TAC to the BB through the interaction with the C-terminus of p197.

In the third part we focused on p166, which was the first TAC subunit identified. We show that the predicted C-terminal transmembrane domain (TMD) anchors p166 in the inner membrane (IM) and divides the protein into a small intermembrane space (IMS)-exposed C-terminus and a large N-terminal part exposed to the matrix. The 34 aa long IMS-exposed C-terminus of p166 interacts with the IMS-exposed loop of TAC60, which has two TMDs. A previous study has shown that the N-terminus of p166 interacts with the most kDNA proximal TAC subunit TAC102. Thus, p166 can bridge the entire distance from the OM to TAC102 and, therefore, very likely forms the filaments of the unilateral filaments (ULFs) the innermost TAC domain.

In the fourth part, we used quantitative proteomics of isolated flagella from cells that contain normal amounts or that were depleted for specific TAC subunits to identify potential novel TAC subunits. p197 and TAC42 were used as RNAi targets in these experiments. The results fully confirmed the hierarchical model of TAC assembly. Putative novel TAC subunit candidates were further characterized. However, none of these proteins could be verified as a real TAC subunit based on localization and/or RNAi phenotype. The study therefore suggests that the core TAC may only consist of the eight already known TAC subunits. Furthermore, the presented data supports the existence of a special module that connects the TAC to the kDNA disk, whose components may show different phenotypes in RNAi experiments than the well characterized core TAC subunits. In summary, this thesis provides new data that allows to propose a more complete three-dimensional model of the TAC architecture in *T. brucei*. Moreover, it reveals intriguing parallels to other DNA segregation systems, such as the spindle pole bodies of budding yeast.

Serena Melgrati

Institute for Research in Biomedicine

Medical Faculty

Supervisor: Marcus Thelen

Co-Advisor: Daniel Legler

Mentor: Carsten Riether

Old and new Atypical Chemokine Receptors: role of ACKR3 in the Marginal Zone and characterization of GPR182 as a novel chemokine scavenger

Abstract

Immune responses rely on efficient trafficking of leukocytes into and within secondary lymphoid organs (SLOs). This process is guided by chemotactic cues, in which a chemokine binds its cognate chemokine receptor to induce intracellular signaling that ultimately result in cell migration. In addition to canonical chemokine receptors, Atypical Chemokine Receptors (ACKRs) exist, which scavenge chemokines to remove them from the extracellular space. This allows the formation of gradients, which leukocytes follow to reach their destination.

ACKR3 is a scavenger for CXCL12 and, with lower affinity, for CXCL11. It is known to be involved in developmental processes, however, its role in the spleen and in immunity remains elusive. We first used ACKR3GFP/+ reporter mice to study the role of this receptor in Marginal Zone (MZ) B cells (MZB). We found that ACKR3 marks a subset of MZB. Moreover, ACKR3 expression on MZB is necessary for correct differentiation and positioning in the spleen. Moreover, ACKR3 deficiency in the MZ prevents successful responses to T-independent antigens. These results suggest that ACKR3 is necessary for MZ formation and function.

The closest relative of ACKR3 by phylogeny is GPR182, an orphan seven-transmembrane domain receptor. We sought to investigate whether GPR182 could share similarities to ACKR3. By using double reporter mice (ACKR3GFP/+ - GPR182mCherry/+ and ACKR4GFP/+ - GPR182mCherry/+), we studied co-expression of ACKR3 and ACKR4 with GPR182 in multiple organs. This study revealed unique and common expression patterns of ACKRs in organs including primary and secondary lymphoid organs, small intestine and colon, liver and kidney. Furthermore, using chimeric chemokines we were able to detect distinct zonal expression and activity of ACKR4 and GPR182 in the liver, which suggests their cooperative relationship.

We then investigated the function of GPR182. We found that GPR182 is able to bind and internalize multiple chemokines with low affinity. Chemokine binding to GPR182 does not induce any canonical chemokine receptor signaling, therefore we propose that GPR182 may be called ACKR5. In vivo, we found that GPR182 is capable of eliminating chemokines from the extracellular space, as GPR182KO animals display increased levels of CXCL13, CXCL12 in the serum and in SLO interstitium, and CCL20 in the serum. Interestingly, we also found that GPR182 cooperates with ACKR3 in regulating CXCL12 serum levels, and with ACKR4 in regulating CCL19. Finally, we observed that GPR182KO mice display a reduced MZ, which results in an impaired response to T-independent antigens.

Overall, this work has significantly contributed to elucidating the role of ACKR3 in marginal zone development and function, as well as unveiling GPR182 as an excellent candidate to be named ACKR5. In addition, the expression map of ACKR3, ACKR4 and GPR182 in vivo will prompt further studies in the future.

Samantha Weber
Department of Neurology

Medical Faculty

Supervisor: Selma Aybek
Co-Advisor: Christopher Pryce
Mentor: Rupert Bruckmaier

The Role of Stress in Neuropathophysiological Mechanisms of Functional Neurological Disorders

Abstract:

Functional neurological disorders (FND) comprise the appearance of diverse neurological symptoms without an underlying classical neurological condition. “Medically unexplained neurological symptoms” have been stigmatized for a long time, and patients were often not taken seriously in their suffering. As historically FND has often been explained as a psychogenic disorder, underpinning the importance of psychological stress, contemporary models aim at integrating a multifactorial origin of FND by means of a biopsychosocial or stress-diathesis model unifying neuroscientific, psychological, and biological concepts in FND. Nowadays, FND is considered a neuropsychiatric disorder, and various risk factors could be identified, reliable clinical signs have been validated, and successful treatment options have been developed. Notwithstanding the enormous effort that has been devoted to identifying why and how FND develops, a satisfactory model of underlying pathophysiological mechanisms of FND remain elusive, and thus, objective biomarkers are lacking.

To fill this gap, this thesis aimed at connecting the questions on why and how FND emerges by studying the neurological, psychological, and physiological aspects of stress and unifying them within the context of a stress-diathesis model for FND. As such, potential biomarkers are investigated, and novel concepts of potential pathophysiological mechanisms are discussed.

First, the robustness and generalizability of resting-state functional magnetic resonance imaging (fMRI) was tested and evaluated in a multi-centre setting, as this has previously been suggested to serve as a potential positive imaging-based biomarker for FND. Second, stress biomarkers were examined and how they potentially relate to psychological and neurological correlates of FND. Third, large-scale functional brain network dynamics and their possible implication in the clinical presentation of symptoms were analysed.

The findings presented in this thesis demonstrate the applicability as well as the persisting technical limitations of resting-state fMRI as an imaging-based biomarker for FND. Further, it could be shown that FND patients have a flattened cortisol awakening response – a common biomarker for psychosocial stress – which was associated to emotional neglect as a precipitating risk factor for FND. Moreover, volumetric brain alterations have been identified in FND and their hypothetical role as predisposing factor was discussed. Lastly, distinct dynamic functional alterations encompassing the salience and limbic network were identified in FND patients, which appeared to correlate with symptom severity and stress biomarkers. To conclude, the findings are discussed in the context of pre-existing pathophysiological models for FND and introduce novel points of view. Furthermore, the limitations of this work are thoroughly evaluated, and future directions and their applications are addressed. Lastly, the clinical importance and contribution to the field is comprehensively highlighted.

Altogether, the findings presented in this thesis support and expand previous literature by 1) demonstrating the predictive power of imaging-based biomarkers, 2) identifying potential abnormalities in the biological stress axis within a standardized setting and discussing their novelty in the framework of the stress-diathesis model, and 3) firstly adopting a spatio-temporal network analysis in FND and reflecting on its neurophysiological relevance. In summary, this thesis supports a stress-diathesis model of FND and highlights potential psychological, neurological, and physiological attributes in the pathophysiological mechanisms of FND.

Photo



Text

The DBMR travel award has been granted to **Paola Bermudez-Lekerika** on 2023 to attend and present her research in the Tissue Engineering and Regenerative Medicine International Society (TERMIS) European Chapter Meeting held in Manchester on the 28th to 31st March 2023.



Laura Cunha Silva was awarded the UniBE Short Travel Grants for (Post)Docs to conduct my PhD fieldwork in India.



In October 2023, **Michelle Gygax** received the UniBE Doc.Mobility Grant which is awarded twice annually to individuals who would like to conduct their research abroad. This recognition was particularly meaningful to Michelle as it highlights the importance of her research in Animal Welfare Science.

Her work focuses on how to use environmental resources to improve welfare of laboratory mice. Receiving this award has not only been a personal honor but also serves as motivation for her ongoing research endeavours.



In 2023, **Liana Hayrapetyan** completed a mobility program that was awarded in 2022 for her project supported by the Swiss National Science Foundation. The work was carried out in Pat Levitt's Lab, Children's Hospital Los Angeles. Liana also was honored with the following in 2023:

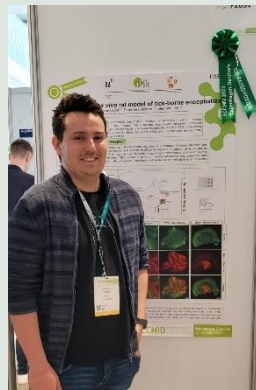
- Best Poster Award – Clinical Neuroscience Bern Annual meeting, Bern, Switzerland, 08.09.2023
- Best Poster Award – BCRC (Bern cancer research cluster) retreat 2023



Amith Jagannath Kamath presented a paper, “ASTRA: Atomic Surface Transformations for Radiotherapy Quality Assurance”, at the Engineering in Medicine and Biology Congress 2023. The paper was awarded second place for best student paper.

Amith and his team also received a grant to run a symposium called BIAS (Bern Interpretable AI Symposium), which has been written about here:

[About Us: Bern Interpretable AI Symposium - Center for Artificial Intelligence in Medicine \(CAIM\) \(unibe.ch\)](https://www.unibe.ch/caim)



Simone Leoni received a travel grant and a best poster award at the European Congress for Clinical Microbiology and Infectious Diseases (ECCMID) 2023 in Copenhagen. His poster was titled, “An improved ex vivo rat model of tick-borne encephalitis”.



Jana Leuenberger, Prof. Benoit Zuber’s lab, received a poster prize at the Clinical Neuroscience Bern Annual Meeting, for her poster, “Comprehensive Investigation of Cellular Models for Synapse Studies: Insights from SH-SY5Y, PC12 and Human iPSC-derived Motoneurons”.



Lordrick Alinaitwe is happy to report he received a CHF 4200 Travel Grant in 2023 from the SNSF through the Office of the Vice Rectorate Development, UniBern. The funds covered his flight, accommodation, and train for the first two months of my stay in Bern June 2-August 30, 2023. During that time, he was able to attend courses, give an oral talk at the GCB symposium and conduct data analysis with the help of his supervisor. He could also draft two manuscripts. He still had time to see Bern.



Magreth Erick Macha was able to secure two grants for her Ph.D. thesis with the title "Deciphering Antimicrobial Resistance Mechanisms of Escherichia coli isolated from Patients with Urinary Tract Infections" at St. Francis Referral Hospital, Ifakara-Tanzania".

The first grant was awarded by the University of Bern Short Travel Grants for (Post) Docs in April 2023.

The second grant was awarded by leading house Africa (Research Partnership Grant I) from Swiss Tropical and Public Health Institute- University of Basel in November 2023.



Aleksandra Ivanovic received a travel award for the ARO Mid-Winter Meeting in Anaheim, USA. Aleksandra is a 4th year Ph.D. Student in the Hearing Research Laboratory at the ARTORG Center for Biomedical Engineering. The lab works closely with the ENT Department of the Inselspital under the supervision of Prof. Dr. med. Lukas Anschütz. The ARO MidWinter Meeting is an annual event. The Association's mission is to promote research in Otolaryngology, hearing, balance science, and related areas, fostering scientific collaboration among members through meetings and activities. Their vision is to excel in science by supporting researchers in these fields, aiming for groundbreaking discoveries and treatments. Their core values include promoting rigorous research, embracing diversity, upholding integrity, fostering collaboration, and supporting education and mentorship for professionals at all career stages.




Mariafrancesca Petrucci won the first prize in the SNSF Scientific Image competition in the category "Woman and men of science".

The transdisciplinary One Health approach aims at achieving optimal health outcomes by recognising the interconnection between people, animals, plants and their shared environment. It recognises that the life and health of animals, humans and other living beings are equally important, and that the highest standard of care must be guaranteed for all, wherever they are. In this photograph, a vet auscultates the heart of a minipig. Mariafrancesca's research project conducted at the Experimental Surgery Facility of the University of Bern studies pain and its characteristics in these animals.

The picture was taken with a tripod on a farm, with colleague Alessandro Mirra helping with

post-production. It underlines the fact that doctors and scientists do not always wear white coats in sterile environments.

"INVESTIGATION OF NEXT-GENERATION CAR T CELLS AGAINST RHABDOMYOSARCOMA"



Caroline Piccand
PHD Student
Bernasconi & Rössler Lab

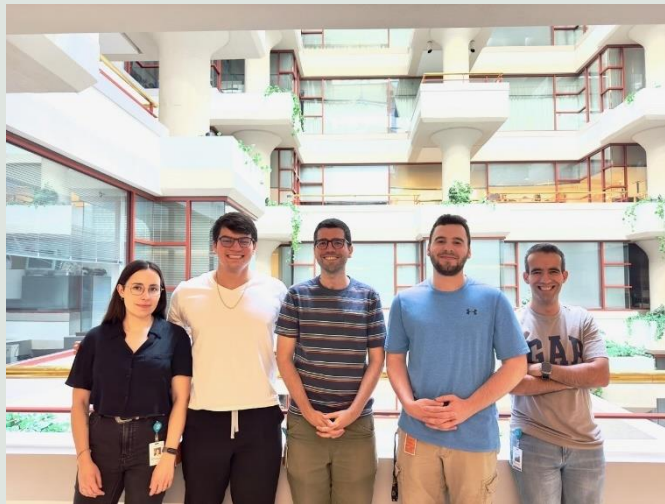
Childhood Cancer Switzerland research award

CHILDHOOD CANCER SWITZERLAND
KINDERKREBS SCHWEIZ
CANCER DE L'ENFANT EN SUISSE
CANCRO INFANTILE IN SVIZZERA

INSELSPITAL
UNIVERSITÄTSSPITAL BASEL
HOSPITAL UNIVERSITAIRE DE BASEL
BASEL UNIVERSITY HOSPITAL

u^b
UNIVERSITÄT
BASEL
Fakultät für Medizin
Department für Kinderonkologie

Caroline Piccand, a PhD student from Prof. Bernasconi's lab received a grant from Kinderkrebs Schweiz for her research project in December 2023.



João Afonso Sequeira de Carvalho was awarded the UniBE Short Travel Grants for (Post)Docs. This grant facilitated a significant step in his academic journey, allowing him to visit Harvard Medical School and the Massachusetts General Hospital in Boston, USA from April to June of 2023, to collaborate with the lab of Dr. JM Gonzalez-Rosa. Dr. Gonzalez-Rosa's lab is at the forefront of heart regeneration research in zebrafish, specializing in tissue-specific gene perturbation using the CRISPR-Cas9 system. His focus during this visit was to learn advanced molecular biology techniques, such as specific tissue targeting with the CRISPR/Cas9 system and Bacterial Artificial Chromosome (BAC) recombineering. João is currently using these tools to study the role of novel key ligands and receptors in the context of zebrafish heart regeneration. This scientific visit has not only been an invaluable learning experience but also an opportunity to immerse himself in the US research environment, fostering potential collaborations for my future in Cardiology cardiovascular research.



Tomáš Sláma was awarded a "UniBE Short Travel Grant for (Post)Docs" which allowed him to take a 2-week scientific visit of the Cancer Survivorship Division of the St. Jude Children's Research Hospital – a world-renowned pediatric oncology research hospital located in Memphis, Tennessee, USA



Christian Urzi, won a “Student Travel Award” at the Metabolomics 2023 Conference, held in Niagara Falls <https://www.metabolomics2023.org/>

He further won a “Travel Scholarship” at the SSIEM 2023 Symposium, held in Jerusalem. <https://ssiem2023.org/>



Simona Vincenti was awarded with the Young Scientist Paper Award 2023 by the University of Zurich, Vetsuisse for her paper titled, “Increased sensitivity of tomputed tomography scan for neoplastic tissues using the extracellular vesicle formulation of the contrast agent iohexol»

<https://www.vet.uzh.ch/de/fakultaet/applaus/Gewinnerinnen-des-Young-Scientist-Paper-Award-2023.html>

https://m.facebook.com/story.php?story_fbid=pfbid02svL88CZHKaf9K639oJzvEVabw85bnP9f4ypaTj4SenDp9K5PQPTCAVJQsbmEgMVyl&id=100063563140694&mibextid=WC7FNe



Anaïs Yerly received the best poster award at the annual Cardiovascular Research Cluster meeting in 2023.

6.3.3 New Award Announced in 2023

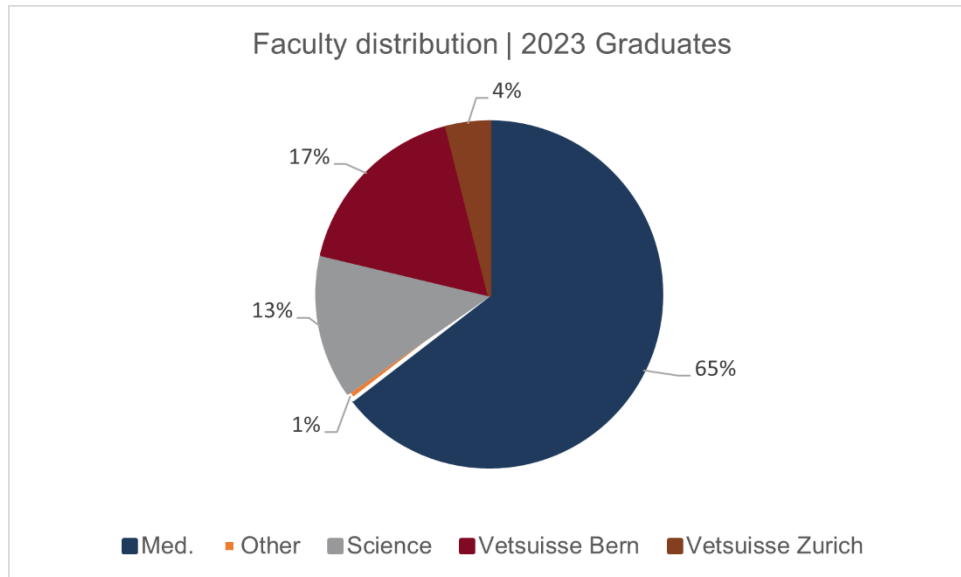
Stem Cell Research and Regenerative Medicine Platform (SCRM) award announced

The Stem Cell Research and Regenerative Medicine Platform (SCRM) has inaugurated a new prize for the most outstanding PhD thesis in the field of stem cell and/or regenerative medicine research. PIs are invited to nominate their students until September 2024 for this award by reaching out to <mailto:carissa.abbas@unibe.ch>. Following the nominations, a shortlist of three students will be selected to deliver brief presentations at the SCRM Annual Meeting in November 2024. The ultimate decision and award presentation to the winner will take place during the event.

7. Facts and Figures

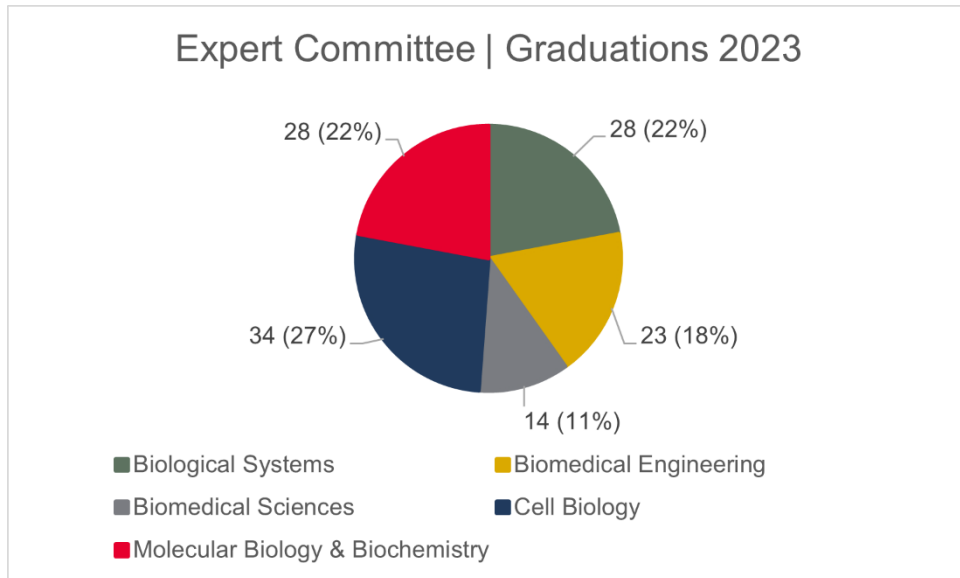
7.1 Highlights | 2023 Graduates

7.1.1 Graduations by Faculty | 2023 Graduates



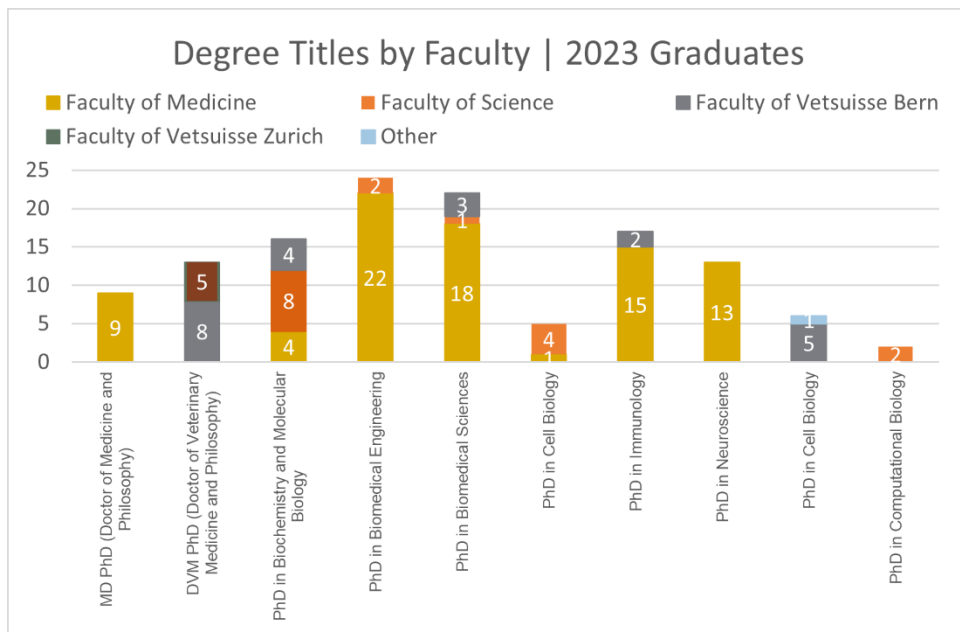
7.1.2

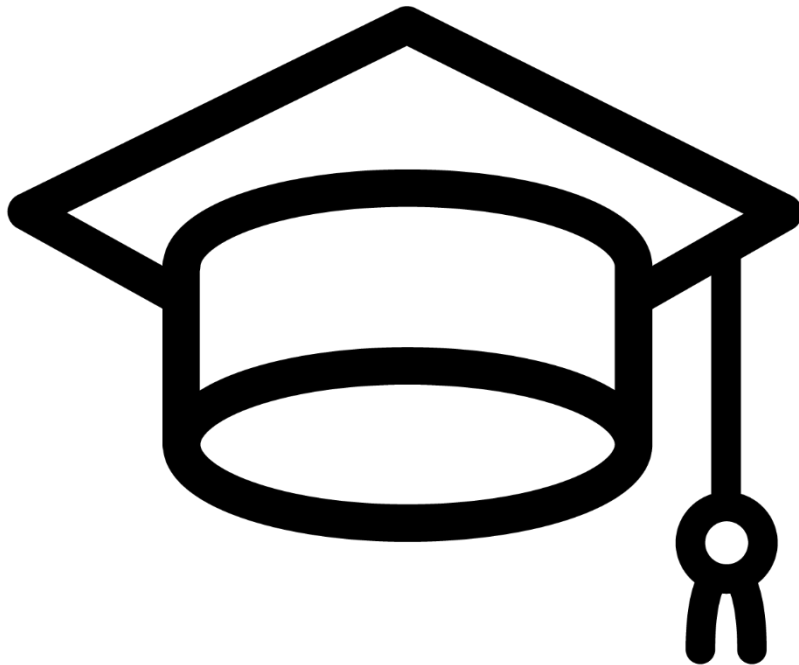
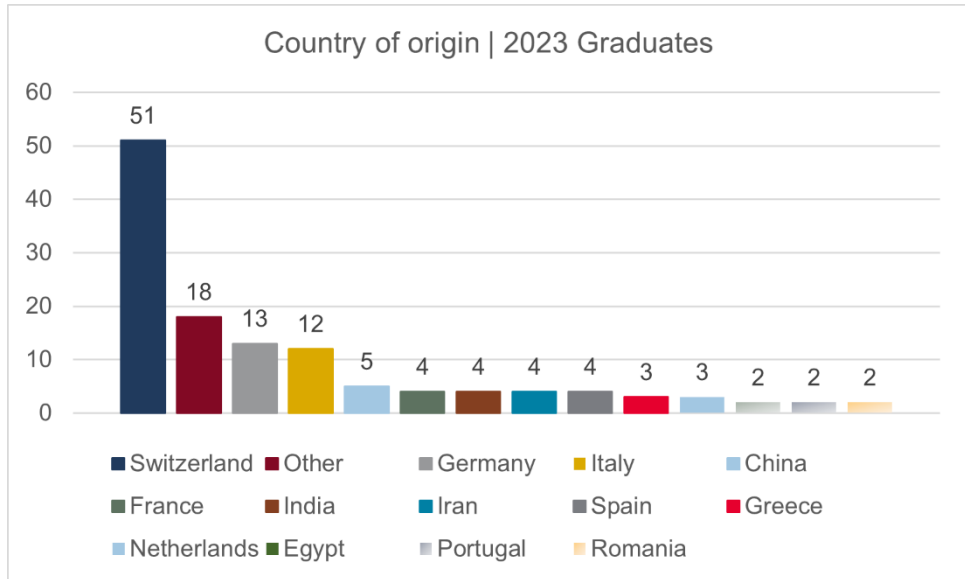
Graduations by Expert Committee | 2023 Graduates



7.1.3

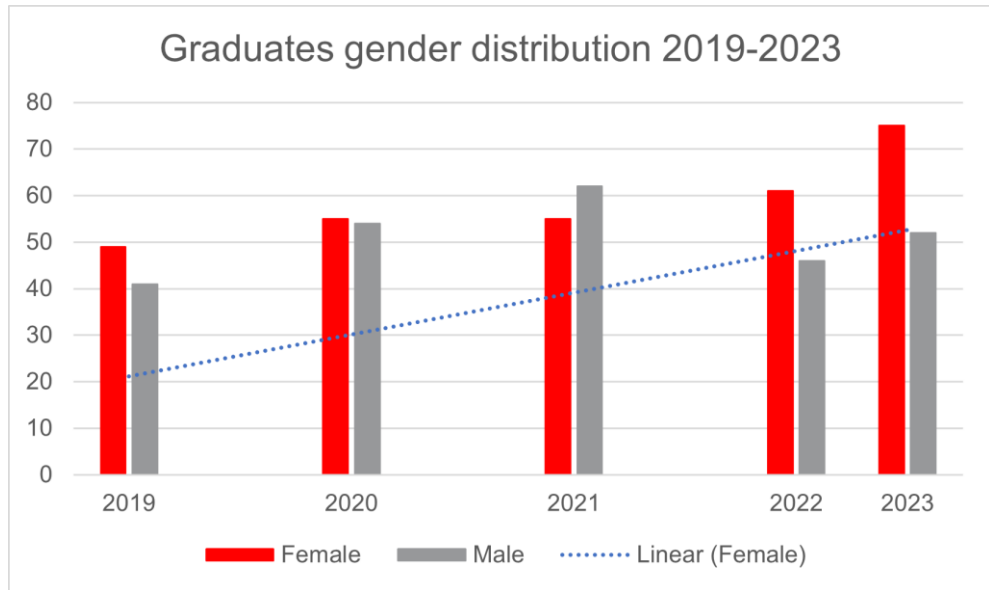
Degree Titles by Faculty | 2023 Graduates



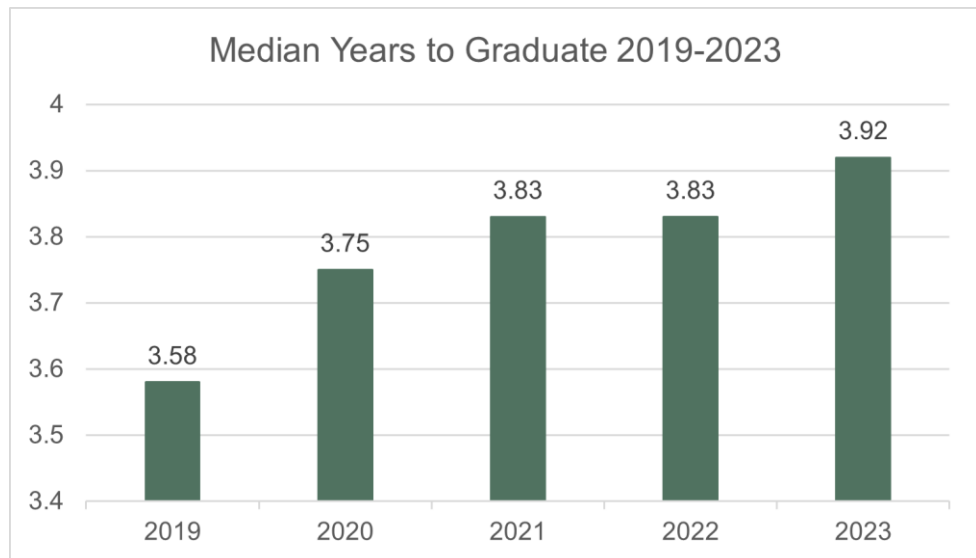


7.2 Five-Year Figures (2019-2022)

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. 263 followers by end of year.</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 600 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 the graduate school receives allows the GCB administration and partners to continue to offer excellence throughout its structured graduate program.

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, the acceptance of students with a master form the Fachhochschule (FH). Thank you for working relentlessly to improve the GCB curriculum, we value your input very much.

GCB Mentors

Your dedication to our 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, Christian Wyniger and Andrés Noah Spörri)** 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.

Barbara Järmann of IBMM for supporting the GCB in all matters concerning the Bridge Program and supporting us in the introduction to the new timekeeping system.

The CTS/KSL team (**Roger Hasler, Norbert Wernicke, Ives Hischier**) under the leadership of Urban Rüegg, 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.

We thank **Miriam Lüthi** and her **University of Bern HR** team for their valuable expertise and support with employment and management issues of our students throughout the year. Also thank you to **Denise Aeschbacher** and **Vanessa Burch** from HR giving us fast the correct advice.

Thank you to **Angelika Leuenberger** and the team in the finance department to always be ready for our questions and find solutions for us.

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