

Annual Report 2016

Faculty of Medicine

Faculty of Science

Faculty of Veterinary Medicine (Vetsuisse Faculty)

Graduate School for Cellular and Biomedical Sciences

PhD Program

- ▶ Cell Biology
- ▶ Molecular Biology & Biochemistry
- ▶ Immunology
- ▶ Neuroscience
- ▶ Epidemiology
- ▶ Biomedical Sciences
- ▶ Biomedical Engineering

<http://www.gcb.unibe.ch>





Graduate School
for Cellular and
Biomedical Sciences



^b
UNIVERSITÄT
BERN

Annual Report 2016

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Table of Contents

Introduction	5
Organization	7
GCB Organization Chart	8
Changes in Committee Memberships During 2016	9
PhD Program	10
Doctoral Candidates	11
Courses and Seminars	13
Special Courses Organized for GCB Students	13
Lectures, Tutorials, and Book Clubs	13
Practical Courses, Workshops, Summer Schools	14
Transferable Skills Courses	15
GCB Seminars	15
3 rd SCRM PhD Student Retreat 2016	16
GCB 10 th Anniversary Symposium 2016	17
Graduations	20
GCB Graduates in 2016: Alphabetical Order	21
Prizes and Awards	31
GCB Award for Best PhD Thesis 2016	31
Additional Prizes and Awards.....	32
Publications	32
MD-PhD Program and MD-PhD Fellowships	33
Support and Acknowledgments	34
Information	34

Introduction

In the 11th year of the Graduate School for Cellular and Biomedical Sciences (GCB), the trend of an increasing number of graduate students has continued and reached 414 students enrolled at the GCB. Throughout the history of the GCB, the percentage of female students has been above 50%, and stabilized at 54% since a few years including 2016. This demonstrates that the education of graduate students at our three faculties is perfectly gender balanced. The high scientific level of projects from students of the GCB is reflected by the most visible output of university research, the publication record. In 2016, a total of 186 peer reviewed research papers were published with PhD students of the GCB involved. From the students enrolled at the GCB between 2007 and 2014, 99% could publish their work in scientific journals within 1½ years after graduation, which is a good measure for the sense of responsibility and the commitment to research of both students and PIs.

The high percentage of successfully finalized projects confirms also the efficacy of the selection process performed by our expert committees both for projects and candidates to prevent failure already at an early stage of the planned work. The selection of the course program for each individual student as decided by the supervisors and the experienced mentors of the GCB adds to this success. I would like to thank all the organizers, the PIs, the mentors, the funding institutions, and of course, the enthusiastic students, for their major contribution to the success of our lively graduate school.

I wish the GCB continued success also for 2017.



Prof. Dr. Rupert Bruckmaier,
GCB President

Bern, March 22, 2017

Organization

The Graduate School for Cellular and Biomedical Sciences (GCB) of the University of Bern is headed by the PhD Committee (executive committee), which is composed of two members each of the Faculty of Medicine, the Faculty of Science, and the Vetsuisse Faculty Bern, and the Program Coordinator. Taking turns, each faculty member acts as President. Currently, **Prof. Dr. Rupert Bruckmaier** (Vetsuisse Faculty) acts as President of the GCB (since August 2015), and **PD Dr. Marlene Wolf** as Coordinator (since September 2005). Under their guidance, the GCB goes on thriving and growing, this fact being demonstrated by a steadily increasing number of PhD candidates, enlarged Expert Committees, and an ever-widening spectrum and range of courses conducted within the framework of the PhD program of the GCB.

Five Expert Committees with competences in

- Biological Systems
- Biomedical Engineering
- Biomedical Sciences
- Cell Biology
- Molecular Biology & 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, one of its members acting as mentor to the PhD candidate; together with the supervisor, they decide upon the individual training program of the PhD candidate.

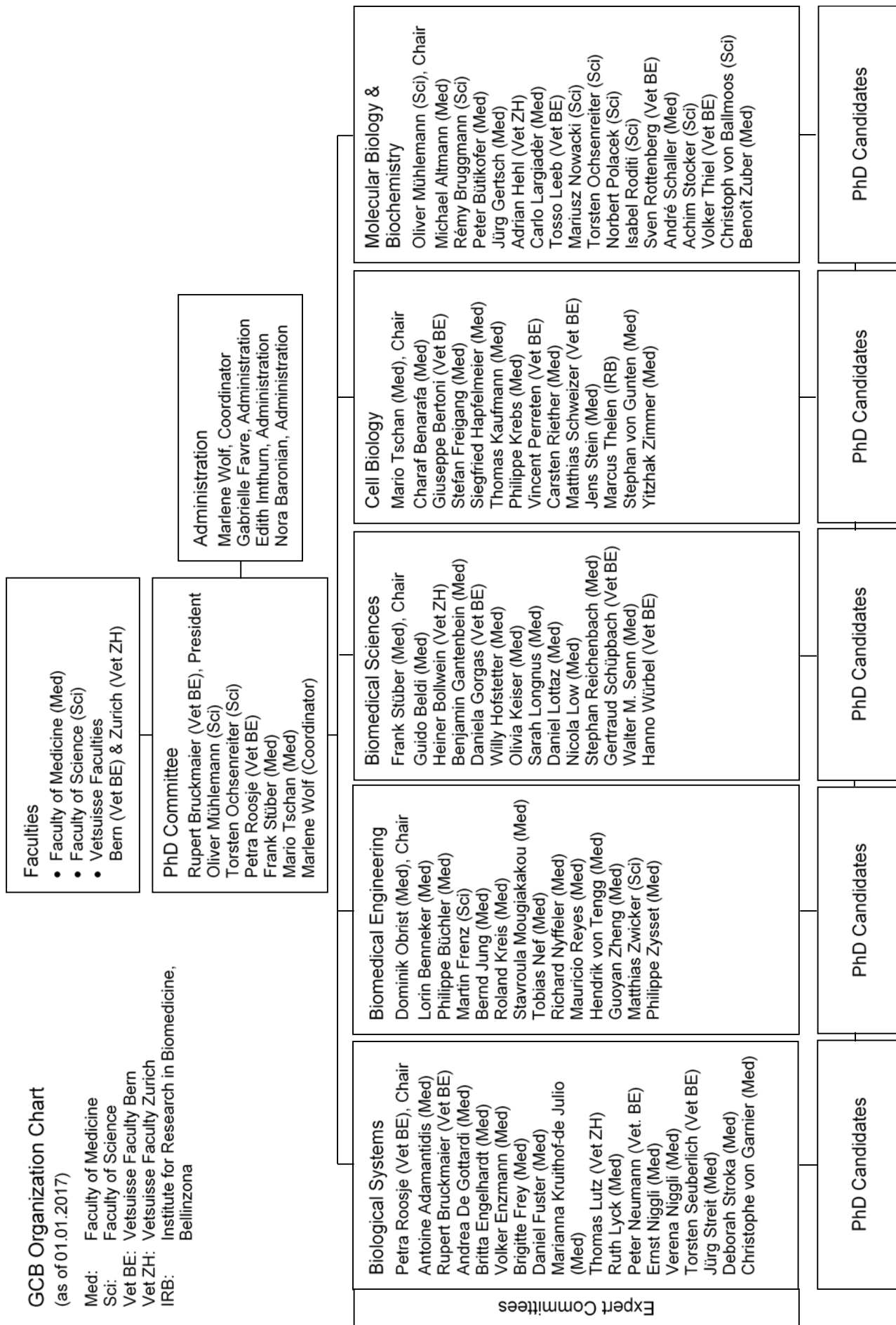
In 2016, the GCB office underwent a change in personnel: **Anita Dähler** left the GCB in mid-November 2016 and was replaced at the start of 2017 by **Edith Imthurn**. Our thanks go to Anita Dähler for her work within the GCB administration, and we are pleased to count on Edith Imthurn for her services to the GCB. **Gabrielle Favre** (since 2005) and **Nora Baronian** (since 2015) complete the administrative staff of the GCB office.

For details on the organization of the GCB and the current GCB Committees' membership, see GCB Organization Chart (next page).

GCB Organization Chart

(as of 01.01.2017)

Med: Faculty of Medicine
 Sci: Faculty of Science
 Vet BE: Vetsuisse Faculty Bern
 Vet ZH: Vetsuisse Faculty Zurich
 IRB: Institute for Research in Biomedicine,
 Bellinzona



Changes in Committee Memberships During 2016

PhD Committee

No changes

Expert Committee «Biological Systems»

Joined:	Prof. Dr. Peter Neumann (Vet BE)	January 2016
	Dr. Marianna Kruithof-de Julio (Med)	June 2016
Resigned:	Prof. Dr. Peter Gehr (Med)	October 2016

Expert Committee «Biomedical Engineering»

No changes

Expert Committee «Biomedical Sciences»

Joined:	Prof. Dr. Hanno Würbel (Vet BE)	January 2016
	PD Dr. Sarah Longnus (Med)	May 2016
	Prof. Dr. Heiner Bollwein (Vet ZH)	October 2016
Resigned:	Prof. Dr. Christoph Stettler (Med)	April 2016
	Prof. Dr. Colin C. Schwarzwald (Vet ZH)	September 2016

Expert Committee «Cell Biology»

Joined:	PD Dr. Carsten Riether (Med)	May 2016
	PD Dr. Matthias Schweizer (Vet BE)	May 2016
	Prof. Dr. Stephan von Gunten (Med)	May 2016
Resigned:	Prof. Dr. Kathy McCoy (Med)	April 2016
	Dr. Kenneth McCullough (Vet BE)	April 2016
	Prof. Dr. Eduardo Moreno (Sci)	April 2016

Expert Committee «Molecular Biology & Biochemistry»

No changes

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, or DVM, PhD degree.

The thesis projects are carried out at laboratories of the three participating faculties (Faculty of Medicine, Faculty of Science, and Vetsuisse Faculty) or at affiliated institutions. In 2016, these included the Institute of Virology and Immunology (IVI) in Mithelhäusern (as part of the Vetsuisse Faculty Bern), the Institute for Research in Biomedicine (IRB) in Bellinzona, the EMPA Competence Centre in Thun, and the Swiss Paraplegic Research in Nottwil.

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

The **supervisor** is responsible for the research project, adequate supervision, the laboratory infrastructure and the salary of the candidate.

The **co-advisor** must not be affiliated with the same institute as the supervisor, but should be an expert in the research area of the thesis project. He meets with the candidate at least twice a year to discuss and assess progress of the thesis work, as well as advising and supporting him/her.

The **mentor** decides, together with the candidate and the supervisor, on the individual, tailor-made training program, taking into account the candidate's previous education and the relevance to the planned research work.

Moreover, in order to promote independent evaluation, an **external co-referee** assesses the PhD thesis of the candidate at the end of the study course.

The training program requires at least 6.0 ECTS of learning credits, which can be obtained by participating in approved, project-related and interdisciplinary courses, workshops, seminars, and lectures. Prior to graduation, candidates must **(i)** pass the exams of the individual training program, and **(ii)** in the course of the second year, present their work in a scientific seminar in the presence of the thesis committee, to document in-depth knowledge of the research field («Mid-term Evaluation»).

By granting a financial contribution, the GCB actively supports the participation of candidates in national and international conferences and in special training courses offered by recognized institutions in Switzerland and abroad.

A further aim of the structured doctoral program of the GCB lies in the promotion of a lively scientific exchange between PhD candidates and senior scientists, and the stimulation of networking activities, such as regular discussions with the thesis committee and exchange among peers during the annual GCB Symposium. Moreover, PhD candidates have the opportunity to invite internationally renowned scientists for a seminar, or to organize a small workshop or meeting on a specific topic.

Doctoral Candidates

Candidates can apply three times per year for admission to the GCB: on April 15, August 15, and December 15. In the course of 2016, **120 PhD candidates** were newly admitted (Table 1), and six candidates discontinued their PhD.

The GCB is currently represented by doctoral candidates with degrees from 43 different countries.

Degree	University of Bern	Other Swiss Universities	Foreign Universities	Total	in %
Medical Degree	2	1	7	10	8.3
Vet. Medical Degree	3	0	7	10	8.3
Science Degree	26	17	57	100	83.4
Total	31	18	71	120	100.0
in %	25.8	15.0	59.2	100.0	

Table 1. Admission of new PhD candidates in 2016, specifying the place of origin of their Master's degrees.

At the end of 2016, **414 candidates** were enrolled in the GCB. 213 candidates (51.4%) were holding a degree from a foreign university, and 53.6% of the doctoral candidates were women (Figure 1).

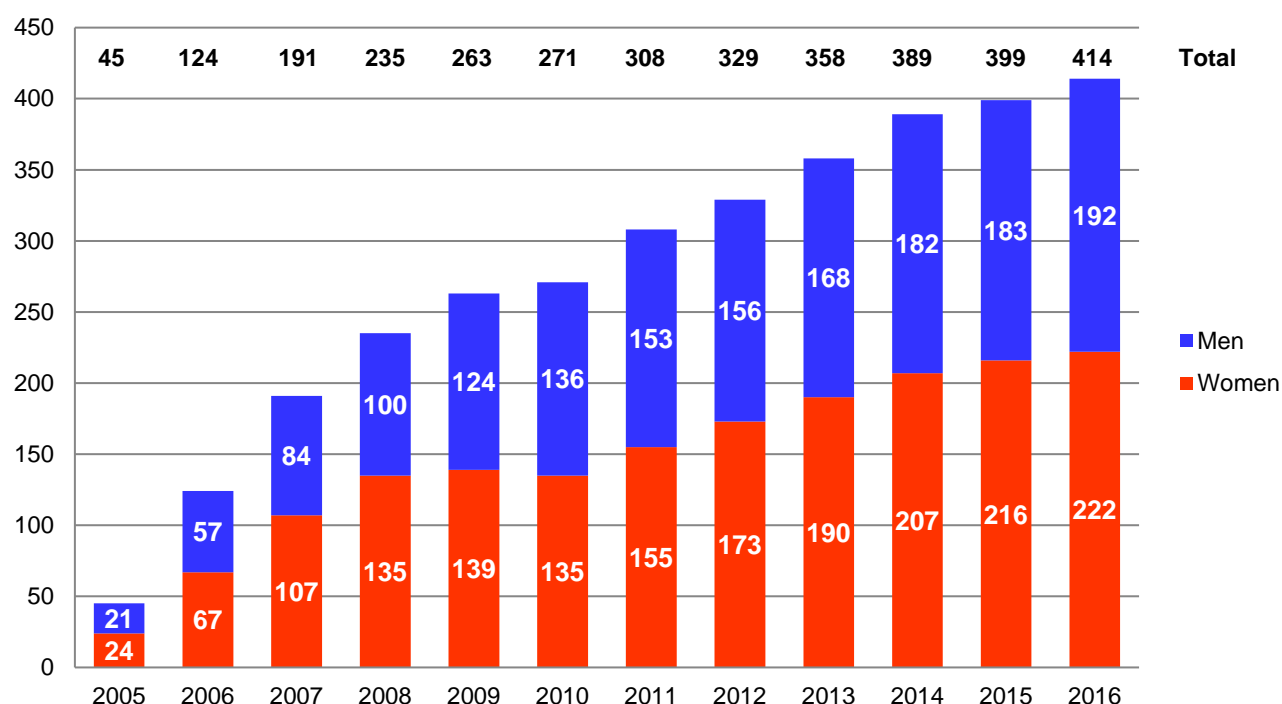


Figure 1. Number of PhD candidates 2005-2016.

Figures 2 and 3 document the distribution of the doctoral candidates in 2016 within the different research fields (GCB Expert Committees) and Faculties/Institutions, respectively.

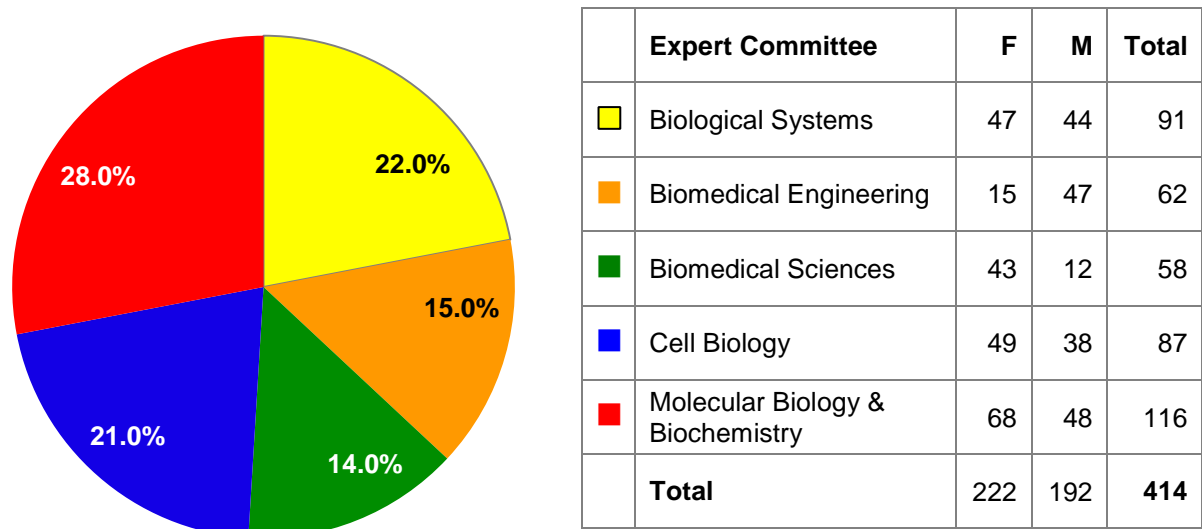


Figure 2 & Table 2. Distribution of PhD candidates within the five GCB Expert Committees. Left: Percentage. Right: Number of candidates (F = women, M = men).

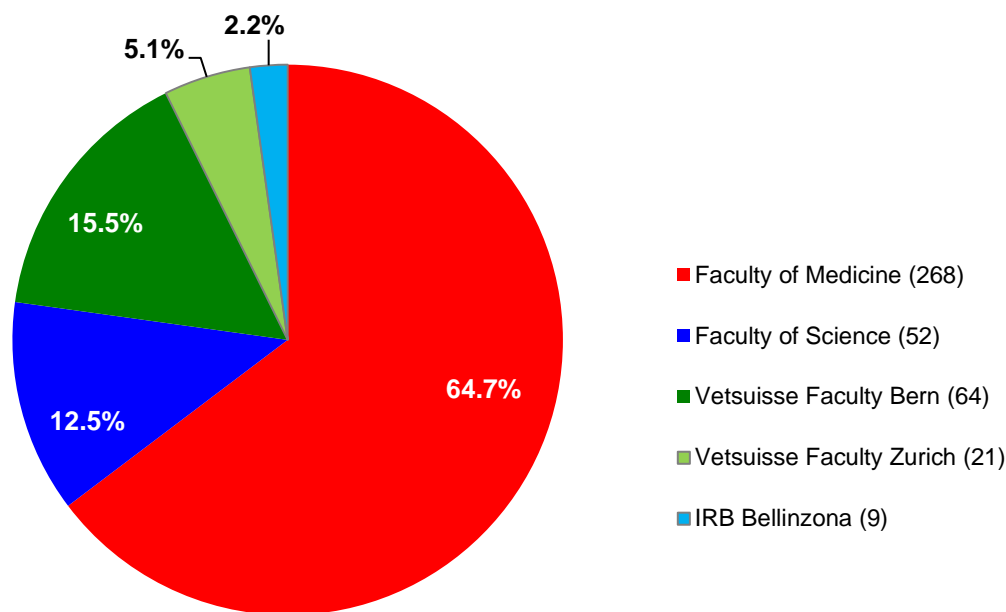


Figure 3. Distribution of PhD candidates within the Faculties/Institutions. In parentheses: number of candidates; in chart: percentage.

Courses and Seminars

For each candidate, seminars and courses are individually selected from courses organized and supported by the GCB, from the teaching units of the faculties, and also from courses offered by other Swiss universities, in particular by the ETHZ or the EPFL for the field of Biomedical Engineering, or by inter-university programs like the NCCRs «TransCure» and «RNA and Disease», the Doctoral Program in Biology and StarOmics (both CUSO), the Doctoral Program in Population Genomics (Universities of Basel, Bern, Fribourg & Lausanne), the Forum for Genetic Research (sc | nat, Swiss Academy of Sciences), the BENEfRI Neuroscience Program (Universities of Bern, Neuchâtel & Fribourg), the Swiss Institute of Bioinformatics (SIB), or the Swiss School of Public Health PhD program (SSPH+). Some candidates also take part in internationally organized Summer Schools, which provide high quality training in specific fields.

Special Courses Organized for GCB Students

Lectures, Tutorials, and Book Clubs

- *Immunology* (book club: Abul K. Abbas, *Cellular and Molecular Immunology*), coordinated by M. Wolf & G. Favre, GCB
- *Cell Biology* («Happy Cell»), (book club: Bruce Alberts et al., *Molecular Biology of the Cell*), coordinated by M. Wolf & G. Favre, GCB
- *Principles in Transgenic Mouse Technology* (workshop), organized by C. Benarafa and U. Deutsch, Theodor Kocher Institute
- *Stem Cells & Regenerative Medicine* (lecture), organized by V. Enzmann, DCR
- *Translational Cancer Research: Crosstalk in Academic, Clinical and Pharmaceutical Cancer Research: Willing to improve? ...* (lecture), organized by M. Tschan, Institute of Pathology, and N. Leupin, Celgene (next course planned in 2017)
- *Topics in Tumor Biology* (lectures and discussions of scientific publications), organized by D. Stroka, DCR, M. Tschan, Institute of Pathology, and Y. Zimmer, DCR
- *Evolution of Adaptive Mechanisms in Vertebrates – Physiology, Behaviour and Implications for Health and Welfare* (lecture), organized by R. Bruckmaier, Division of Veterinary Physiology, and H. Würbel, Division of Animal Welfare, Vetsuisse Faculty Bern
- *Environment-related Diseases: from Climate Change to Nanotoxicology* (lecture and excursion to the Jungfrauoch High Altitude Research Station), organized by H. Krug, EMPA St. Gallen
- *Excitation-Contraction Coupling and Cardiac Contractile Force* (book club: Donald M. Bers), organized by E. Niggli, Dept. of Physiology
- *Lecture Course: International PhD Program in Immunology, Cell Biology and Biochemistry*, coordinated by S. Monticelli, IRB Bellinzona, for IRB students
- *Introduction to Epidemiology & Biostatistics* (summer course), organized by G. Schuepbach and J. Berezowski, Vetsuisse Faculty Bern
- *Book Clubs, Journal Clubs and Seminars*, offered by the Institute of Social and Preventive Medicine (ISPM),
http://www.ispm.unibe.ch/continuing_education/courses_for_phds/index_eng.html

- *Biostatistics for Non-Statisticians: Good Practices, Misuse and Pitfalls*, offered by the GCB and conducted by R.-D. Gosselin, Biotelligences LLC
- *Statistical Literature Seminar*, organized by B. Voelkl, Division of Animal Welfare, Vetsuisse Faculty Bern
- *Module in Metabolomics: Introduction to the major aspects of metabolomics*, organized by D. Beyoğlu, DCR

Practical Courses, Workshops, Summer Schools

- *Cell Migration*, organized by B. Engelhardt, J. Stein, and R. Lyck, Theodor Kocher Institute
- *Vascular Cell Biology*, organized by B. Engelhardt, U. Deutsch, and R. Lyck, Theodor Kocher Institute
- *Molecular Biological Methods in Clinical Research*, organized by V. Schröder and M. Schaller Tschan, DCR
- *Microscopy: Basic and Advanced/Special Modules*, offered by the Microscopy Imaging Center (MIC), <http://www.mic.unibe.ch/education.php>
- *Microscopy Applications for Immunological Research*, organized by M. Thelen, IRB Bellinzona
- *DNA Sequencing and Mutation Analysis: Basics of Sanger and Next Generation Sequencing*, organized by T. Leeb, M. Drögemüller, and V. Jagannathan, Institute of Genetics, Vetsuisse Faculty Bern
- *Flow Cytometry Course*, organized by S. Müller, C. Vallan, and A. Kopitar, FACSlab, DCR
- *Concepts and Methods in Programmed Cell Death and Autophagy* (bi-annually), organized by T. Kaufmann, Institute of Pharmacology
- *International Summer School on Inflammation, Immunomodulation, Inspiration*, organized by H.-U. Simon, Institute of Pharmacology
- *PhD Symposium* (bi-annually), organized by PhD students of applied ethology and H. Würbel, Veterinary Public Health Institute, Animal Welfare Division, Vetsuisse Faculty Bern, http://www.tierschutz.vetsuisse.unibe.ch/studies/courses/index_eng.html
- *SCRM PhD Student Retreat* (annually), organized by students of the Stem Cell Research in Regenerative Medicine group (SCRM), <http://www.stemcellsbern.ch/wb/pages/intropage.php>

Transferable Skills Courses

- *Scientific Integrity* (lecture), conducted by T. Ochsenreiter, Institute of Cell Biology (mandatory lecture for all GCB candidates)
- *Scientific Writing*, organized by R. Greif, Dept. of Anaesthesiology and Pain Therapy, Inselspital, Bern University Hospital
- *Scientific Communications for PhD Students*, organized by S. Longnus, Dept. of Cardiovascular Surgery, Inselspital, Bern University Hospital
- *The Art of Lecturing*, organized by R. Greif, Dept. of Anaesthesiology and Pain Therapy, Inselspital, Bern University Hospital
- *Presenting with Confidence* (workshop), offered by the GCB and conducted by B. Weber, lecturer for presentation competence and actress, Bern
- *Project Management for Researchers* (workshop, combined with homework assignment and online course), offered by the GCB and conducted by D. Krstic, www.PimpYourScience.org

GCB Seminars

GCB Seminars give PhD candidates the possibility to invite internationally renowned specialists from their field of research for an interactive teaching lecture and a research seminar intended for a broad audience. The GCB provides administrative help and financial support.

This is a unique opportunity offered to PhD candidates, of which advantage is still taken far too infrequently. Hopefully, in future years more candidates of the GCB will be motivated to organize meetings with distinguished scientists, learn from them and exchange ideas with them.

3rd SCRM PhD Student Retreat 2016

In 2016, the «3rd SCRM PhD Student Retreat» (Figure 4) took place on September 6, 2016, and was supported by the GCB. SCRM stands for Stem Cell Research in Regenerative Medicine (see <http://www.stemcellsbern.ch/wb/pages/intropage.php>). The event was organized by four PhD candidates, and altogether 13 PhD candidates of the GCB conducting their research in this area took part in the retreat, as well as five lecturers.

Stem Cell Network Bern: PhD Student Retreat 2016

Following the successful 1st and 2nd SCRM PhD Student Retreat, this year's Retreat took place on 6th of September on top of the Gurten Mountain in Bern. The program of the Retreat comprised sessions of PhD project presentations, breaks for networking and discussions as well as two keynote lectures given by the invited speakers. The program was then concluded by an address given by the SCRM Steering Committee, followed by the Apéro Riche.

A special acknowledgement is addressed to the keynote lecturers Doctor Liane Höfferer, Senior Director R&D at CSL Behring, and Professor Marcelo Rivolta, an expert of stem cell research of the inner ear from the University of Sheffield, who both gave excellent keynote presentations and shared their experiences and expertise.

The Retreat was made possible with the generous financial support given by the Platform for Stem Cell Research in Regenerative Medicine Bern and the Graduate School for Cellular and Biomedical Sciences.

On behalf of the participants, we would like to conclude that the Student Retreat was again a great success, and we thank everyone for their great participation and work. We hope that the meeting provided helpful inputs, made a contribution to the recognition of each project, and fostered everyone's personal scientific network.

We wish the participants all the best for their future and hope to meet everyone again for the upcoming PhD Student Retreat in 2017.

*For the organizing committee,
Felix Baier*

*The Retreat was organized this year by:
Felix Baier, Carolyn Trepp, Michael Perny, and William Harriton*



Figure 4. Participants of the «3rd SCRM PhD Student Retreat» on the Gurten, Bern.

GCB 10th Anniversary Symposium 2016

On 4 February 2016, the GCB celebrated its 10th anniversary on occasion of the annual Symposium. As in previous years, it was held on the premises of the Department of Chemistry and Biochemistry, and additionally, at the Department of Physiology, enjoying the efficient and helpful support of the staff of both departments. The GCB doctoral candidates presented their research projects in **30 short talks** during five parallel sessions, and in two poster sessions of **186 posters** altogether. The presentations illustrated the wide range of topics covered by the GCB, and demonstrated the candidates' high level of competence in the fields of cellular and biomedical sciences, epidemiology, and biomedical engineering. The day also offered an excellent opportunity for both GCB candidates and their supervisors and mentors to engage in reciprocally rewarding and highly stimulating discussions on the research work going on at the GCB, and for active networking among peers.

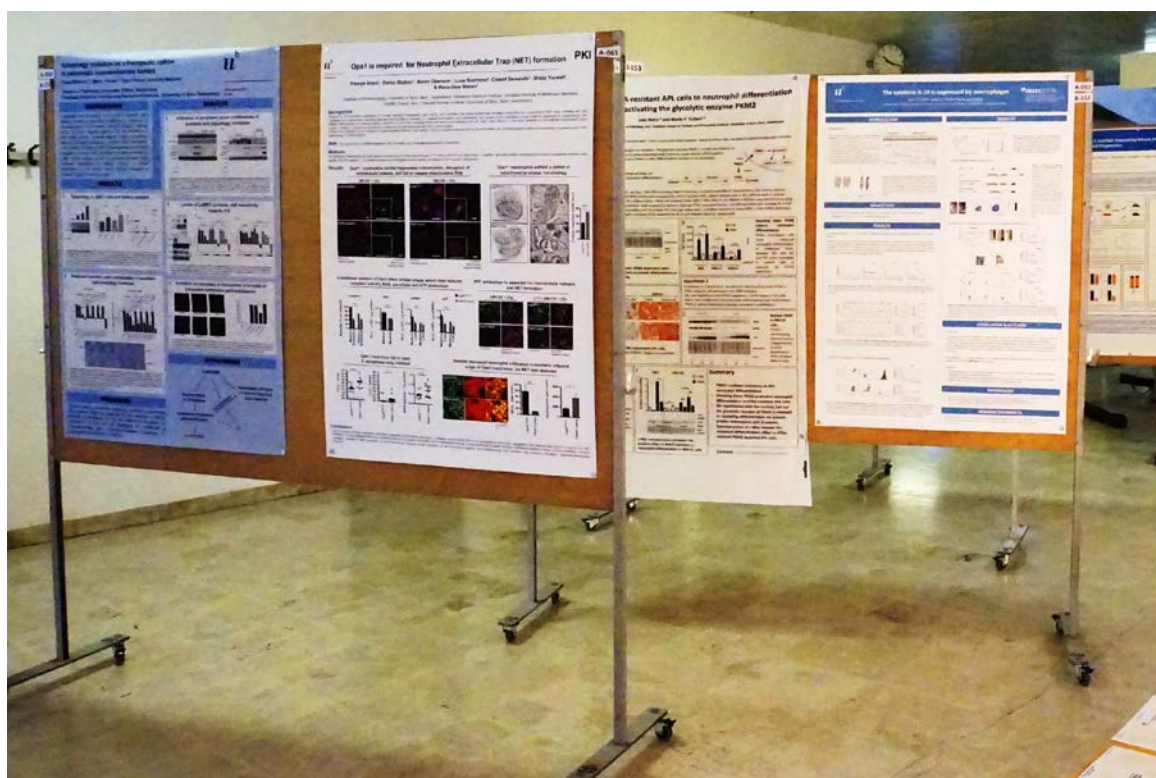


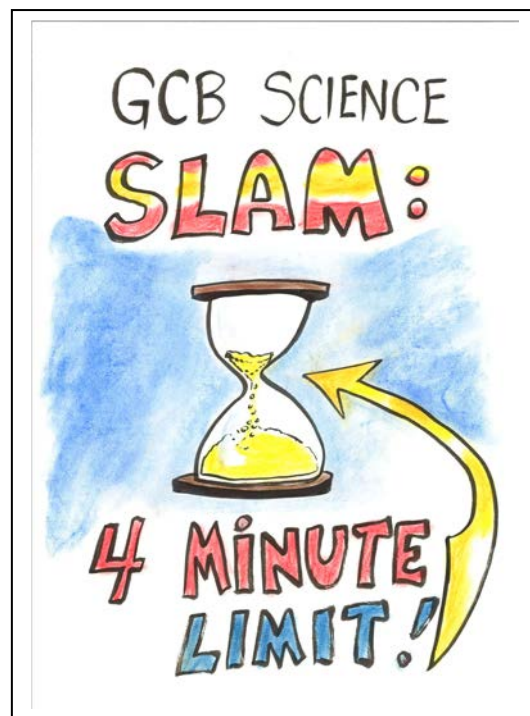
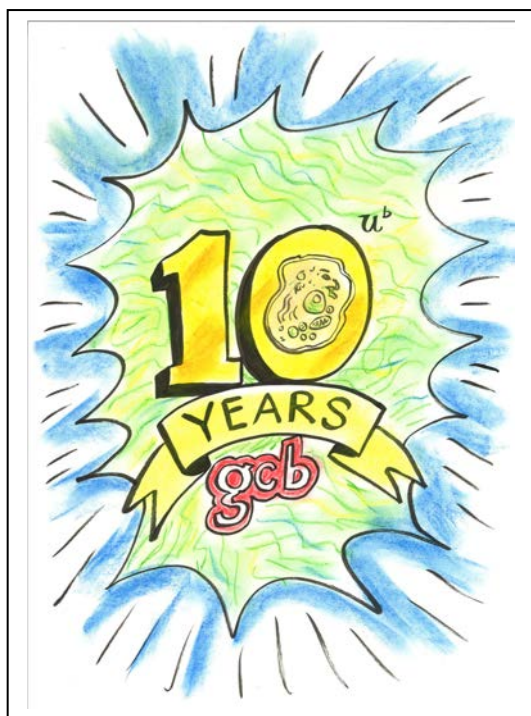
Figure 5. GCB 10th Anniversary Symposium 2016: Ready for the Poster Session.

The afternoon was dedicated to celebrating the GCB 10th Anniversary. It started with an anniversary address by the Rector of the University of Bern, **Prof. Dr. Martin Täuber**, followed by an historical review «10 Years GCB» by the GCB Coordinator, **PD Dr. Marlene Wolf**, a «surprise address» by former GCB President **Prof. Dr. Ernst Peterhans**, to honor Marlene Wolf's and the GCB administrative team's enduring merit for their services to the GCB, and finally, the keynote lecture, delivered by the distinguished invited speaker, **Prof. Dr. Piet Borst**, MD, PhD, Division of Molecular Oncology, The Netherlands Cancer Institute, Amsterdam. In his highly acclaimed lecture, Prof. Piet Borst discussed the topic «**Mammalian ABC-Transporters: From Multi-Drug Resistance to Inborn Errors of Metabolism**».



Figure 6. Prof. Dr. Piet Borst giving his keynote lecture on occasion of the GCB 10th Anniversary Symposium 2016.

To conclude a day rich in most diverse scientific explorations, a new challenge was set up for the GCB's young researchers in the form of the first «GCB Slam», presided over by Masters of Ceremonies **Crazy David** and **Nicola von Greyerz**. 15 PhD candidates ventured into this unfamiliar type of presentation, with the task of explaining their research project to a non-specialist audience; in their 4-minute slam performances, they competed for the prizes awarded to the three best performances by voting members of the audience. The highly inventive and vividly applauded prize winners were **Xenia Ficht**, Theodor Kocher Institute (1st prize), **Sreenath P. Kyathanahally**, DCR, Magnetic Resonance Spectroscopy and Methodology (2nd prize), and **Miguelangel Cuenca**, Institute for Infectious Diseases (3rd prize).



Figures 7 and 8. GCB 10th Anniversary Symposium 2016: Illustrations by Crazy David.

Preceding the GCB Slam, exponents of the day's three sponsors, **CSL Behring**, **The Haag Streit Group**, and **Ypsomed Holding AG**, presented their research-oriented companies to the audience, illustrating attractive possible career paths for young researchers. We express our thanks to the sponsors for their generous support, which enabled the GCB to offer an apéro riche to conclude an eventful day. The apéro gave participants the opportunity to clink glasses in a relaxed atmosphere, to celebrate the scientific achievements of the last ten GCB years, and kick off the just as promising next GCB decade.

Graduations

In the course of 2016, **97 candidates** successfully completed the PhD program of the GCB and obtained their doctoral degree, jointly issued by the Faculty of Medicine, the Faculty of Science, and the Vetsuisse Faculty.

Of the graduates, 53 or 54.6% were candidates with a degree from a foreign university who joined the GCB for their PhD studies.

Since the start of the PhD program in 2005, **570 candidates** have successfully completed their studies and obtained a doctoral degree.

The new regulations of the GCB came into effect in July 2011 and entailed, amongst other things, a clearer distinction between the different research areas for which PhD titles are awarded. Figure 9 shows the different types of PhD titles obtained by the **253 GCB graduates** who completed their PhD studies between 2014 and 2016. During a transitional period, 28 PhD candidates finished their studies according to the old GCB regulations and graduated with the former title «Doctor of Philosophy in Science (PhD)».

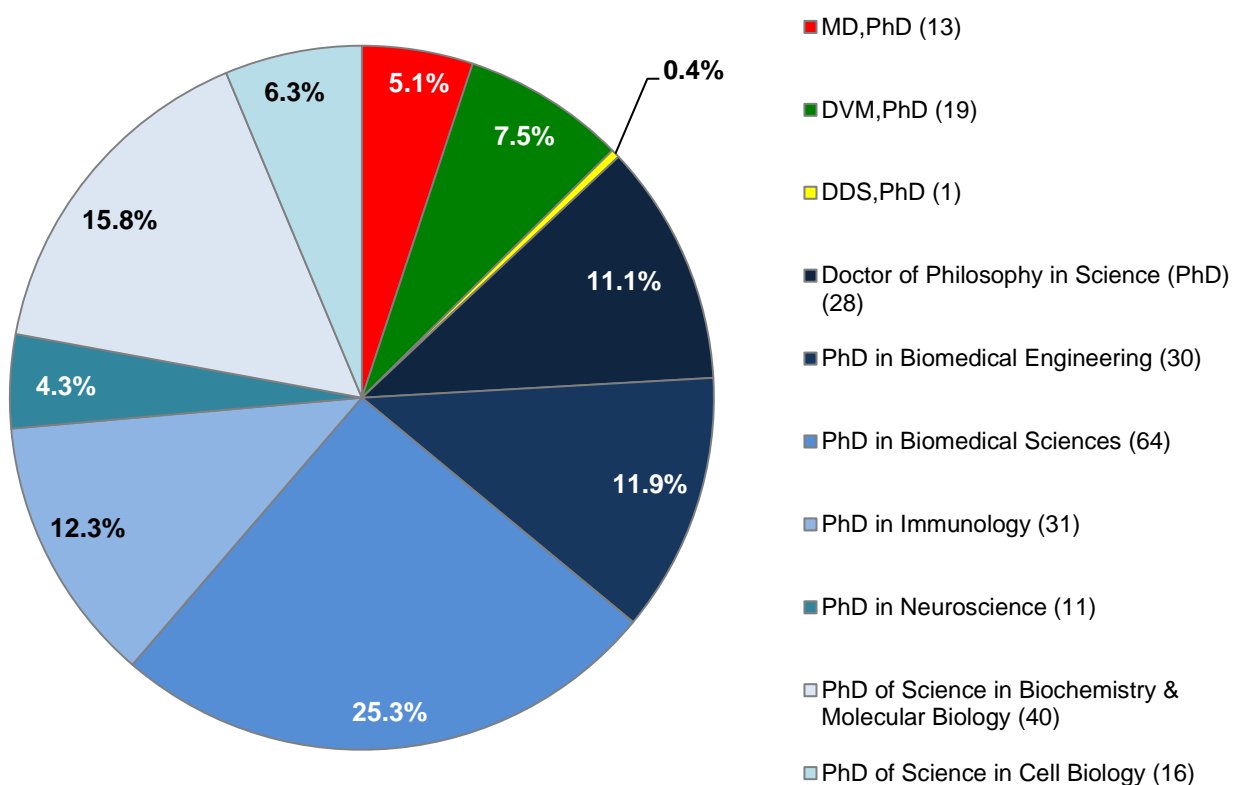


Figure 9. PhD degree types of the 253 GCB graduates over the period of 2014 to 2016.
In parentheses: number of graduates; in chart: percentage.

GCB Graduates in 2016: Alphabetical Order

Walter Aeschimann, PhD of Science in Biochemistry and Molecular Biology

(January 26)

Department of Chemistry and Biochemistry, (Prof. Dr. Achim Stocker)

«Self-Assembly of α -TTP Nano-Particles: Structural and Functional Studies»

Parisa Aghagolzadeh, PhD in Biomedical Sciences (August 23)

Department of Clinical Research, Nephrology and Hypertension (PD Dr. Andreas Pasch)

«Cellular and Molecular Mechanisms of Calcification Induction and Prevention in Human Vascular Smooth Muscle Cells»

Mohamad Farid Al Sayed, PhD in Immunology (February 17)

Department of Clinical Research, Tumor Immunology (Prof. Dr. Adrian Ochsenbein)

«Lymphocytes in cancer: A double-edged sword»

Poorya Amini, DVM, PhD (December 20)

Institute of Pharmacology (Prof. Dr. Hans-Uwe Simon, Prof. Dr. Shida Yousefi)

«Optic atrophy 1 (OPA1) is essential for NET formation and antibacterial functions in neutrophils»

Colette A. Bichsel, PhD in Biomedical Sciences (July 1)

ARTORG Center for Biomedical Engineering Research, Organs-on-Chip Technologies, and Dept. of Pneumology, Inselspital, Bern University Hospital (Prof. Dr. Thomas Geiser)

«In Vitro Human Lung Microvasculature»

Laure Blatti-Cardinaux, DVM, PhD (February 12)

Institute of Virology and Immunology, Vetsuisse Faculty Bern (PD Dr. Giuseppe Bertoni)

«Molecular analysis of low virulence Small Ruminant Lentiviruses challenging a successful eradication campaign»

Rebecca Agaatha Maria Blom, PhD in Biomedical Sciences (December 9)

Department of Clinical Research, Pulmonary Medicine (Prof. Dr. Christophe von Garnier)

«Pulmonary immune responses to bio-mimetic antigen carriers for novel therapeutic approaches»

Ramona Bolognini, PhD in Biomedical Sciences (December 16)

Department of Clinical Research, Human Genetics, and Department of Paediatrics, Inselspital, Bern University Hospital (PD Dr. André Schaller)

«Characterization of Molecular Pathomechanisms in Mitochondrial Disorders»

Roman Othmar Braun, PhD in Immunology (December 13)

Institute of Virology and Immunology, Mittelhäusern (Prof. Dr. Artur Summerfield)

«Application of systems vaccinology to the veterinary field using a toll-like receptor ligand adjuvanted liposomal vaccine targeting antigen presenting cells»

Fanny Bringolf, PhD of Science in Biochemistry and Molecular Biology (May 24)

Division of Experimental Clinical Research, DCR-VPH, Vetsuisse Faculty Bern (PD Dr. Philippe Plattet)

«Deciphering canine distemper exit and entry mechanisms»

Daniel Brönnimann, PhD in Biomedical Sciences (September 12)

Institute of Anatomy (Prof. Dr. Valentin Djonov)

«Exploring the Zebrafish Vasculature *in vivo*»

Stefanie Sophie Buschor, PhD in Immunology (November 4)

Institute for Infectious Diseases (Prof. Dr. Siegfried Hapfelmeier)

«Characterization of the early dynamics of *Citrobacter rodentium* infection»

Chengwen Chu, PhD in Biomedical Engineering (November 29)
Institute for Surgical Technology & Biomechanics (Prof. Dr. Guoyan Zheng)
«**Musculoskeletal Image Analysis: Detection, Segmentation, and Modelling**»

Carlos Correa Shokiche, PhD in Biomedical Engineering (December 12)
Institute for Surgical Technology & Biomechanics (Prof. Dr. Mauricio Reyes)
«**MicroCT based kidney morphometry: A machine learning approach**»

Myriam Fabiola Cortinas Elizondo, PhD in Immunology (May 24)
Institute of Pharmacology (Prof. Dr. Stephan von Gunten)
«**Innate immune system crosstalk: Eosinophils mediate immune modulation of dendritic cells through exosomes as shuttle vectors of miRNA**»

Miguelangel Cuenca Vera, PhD in Immunology (September 16)
Institute for Infectious Diseases (Prof. Dr. Siegfried Hapfelmeier)
«**Exploring the pathogen-commensal continuum: Cell wall auxotrophic bacteria in gnotobiotic mice**»

Elisabeth Louisa Maria de Graauw, MD, PhD (November 15)
Institute of Pharmacology (Prof. Dr. Hans-Uwe Simon, Prof. Dr. Dagmar Simon)
«**The requirements of eosinophil activation and monocyte-neutrophil interactions for blister formation in a human ex vivo skin model of bullous pemphigoid**»

Mariana De Niz, PhD of Science in Cell Biology (January 15)
Institute of Cell Biology (Prof. Dr. Volker Heussler)
«**Imaging of malaria: conserved mechanisms of *Plasmodium* sequestration and virulence factor export in rodents and humans**»

Francesca Del Chicca, DVM, PhD (April 29)
Department for Small Animals, Division of Diagnostic Imaging, Vetsuisse Faculty Zurich (Prof. Dr. Patrick Kircher)
«**Functional magnetic resonance imaging of the liver of healthy dogs**»

Gaëlle Diserens, PhD in Biomedical Sciences (May 20)
Department of Clinical Research, Magnetic Resonance Spectroscopy and Methodology (AMSM) (Prof. Dr. Peter Vermathen)
«**In Vivo and Ex Vivo Investigations of Ectopic Lipids in Renal and Other Tissues by Magnetic Resonance Imaging and Spectroscopy: Method Establishment and First Applications for Determining Disease Biomarkers**»

Ayşe Sıla Dokumacı, PhD in Biomedical Engineering (June 30)
Department of Clinical Research, Magnetic Resonance Spectroscopy and Methodology (AMSM) (Prof. Dr. Chris Boesch)
«**Development and application of non-invasive MR spectroscopy methods for studies of insulin resistance in humans**»

Margaux Dreyer, PhD of Science in Biochemistry and Molecular Biology (December 20)
Division of Experimental Clinical Research, DCR-VPH, Vetsuisse Faculty Bern (Prof. Dr. Anna Oevermann)
«**Characterization of *Listeria monocytogenes* isolates from ruminants and their environment**»

Simone Ebener, PhD in Biomedical Sciences (October 28)
Department of Clinical Research, Pulmonary Medicine (Prof. Dr. Thomas Geiser, Dr. Manuela Funke-Chambour)
«**Toll-like receptor 4 in idiopathic pulmonary fibrosis**»

Melanie Eck, Doctor of Philosophy in Science (PhD) (January 25)
Institute of Virology and Immunology, Mittelhäusern (Dr. Nicolas Ruggli)
«**Development of a replicon vector vaccine against porcine reproductive and respiratory syndrome virus**»

Caterina Elisa Faliti, PhD in Immunology (July 6)
Institute for Research in Biomedicine, Bellinzona (Prof. Dr. Fabio Grassi)
«**Mechanisms of purinergic regulation during humoral immune response in physiology and pathology**»

Iuliia Filipenko, PhD in Biomedical Sciences (November 10)
Institute of Pharmacology (Prof. Dr. Andrea Huwiler, Prof. Dr. Uwe Zangemeister-Wittke)
«**The role of the S1P₃ receptor in inflammation-associated proliferative disorders**»

Paola Francica, PhD in Biomedical Sciences (March 14)
Department of Clinical Research, Radiation Oncology (PD Dr. Yitzhak Zimmer, Dr. Michaela Medová)
«**Depletion of FOXM1 via MET targeting underlies establishment of a DNA damage-induced senescence program in gastric cancer**»

Roger Fricker, PhD of Science in Biochemistry and Molecular Biology (September 16)
Department of Chemistry and Biochemistry (Prof. Dr. Norbert Polacek)
«**Biology of tRNAs in *Trypanosoma brucei***»

Matteo Fusaglia, PhD in Biomedical Engineering (February 17)
ARTORG Center for Biomedical Engineering Research, Image-Guided Therapy (Prof. Dr. Stefan Weber)
«**Design, integration and clinical investigations of image-guided laparoscopic liver surgery**»

Can Gökgöl, PhD in Biomedical Engineering (October 27)
Institute for Surgical Technology & Biomechanics (Prof. Dr. Philippe Büchler)
«**Characterization of the Deformation Behavior and Mechanical Response of the Femoro-popliteal Arterial Tract after Stent Placement**»

Petra Gottier, PhD of Science in Biochemistry and Molecular Biology (December 22)
Institute of Biochemistry and Molecular Medicine (Prof. Dr. Peter Bütikofer)
«**Cardiolipin Synthesis in *Trypanosoma brucei*: Exploring the Biochemical Features of a Potential Drug Target**»

Myrofora Goutaki, MD, PhD (September 12)
Institute of Social and Preventive Medicine (Prof. Dr. Claudia Kuehni)
«**Epidemiology of Primary Ciliary Dyskinesia**»

Isabel Hostettler, PhD of Science in Cell Biology (March 18)
Institute of Parasitology, Vetsuisse Faculty Bern (Prof. Dr. Andrew Hemphill)
«**Development and application of a novel screening cascade for the identification of anti-theilerial drugs**»

Daniela Iannotta, PhD of Science in Biochemistry and Molecular Biology (November 3)
Institute for Research in Biomedicine, Bellinzona (Dr. Luca Varani)
«**Characterization of Antibody-Protein Interaction in Diphtheria Toxin**»

Hüseyin Ilgü, PhD of Science in Biochemistry and Molecular Biology (January 12)
Institute of Biochemistry and Molecular Medicine (Prof. Dr. Dimitrios Fotiadis)
«**Functional and Structural Studies of Membrane Transporters**»

Lorenz Jenny, PhD in Biomedical Sciences (June 22)

Department of Clinical Research, Experimental Haemostasis (PD Dr. Verena Schröder)
«**Complement protease MASP-1—A major link between the complement and the coagulation system**»

Jing Jin, PhD in Biomedical Sciences (May 2)

Institute of Pathology (Prof. Dr. Mario P. Tschan)

«**The Role of PU.1-regulated Autophagy Genes in Acute Myeloid Leukemia Autophagy and Cellular Differentiation**»

Borka Jovic, PhD of Science in Biochemistry and Molecular Biology (December 16)

Institute of Cell Biology (Prof. Dr. Torsten Ochsenreiter)

«**Characterization of the translationally controlled tumor protein in *Trypanosoma brucei***»

Sandro Käser, PhD of Science in Biochemistry and Molecular Biology (August 11)

Department of Chemistry and Biochemistry (Prof. Dr. André Schneider)

«**Role of outer membrane proteins in mitochondrial protein import and genome inheritance**»

Gesine Kaiser, PhD of Science in Cell Biology (July 21)

Institute of Cell Biology (Prof. Dr. Volker Heussler)

«**High-end microscopy provides insights into the *Plasmodium berghei* development: The endoplasmic reticulum**»

Swapna Karthik, PhD in Biomedical Sciences (July 4)

Institute of Anatomy (Prof. Dr. Valentin Djonov)

«**Intussusceptive angiogenesis and remodeling in developing zebrafish caudal vein plexus**»

Michael Kistler, PhD in Biomedical Engineering (January 21)

Institute for Surgical Technology & Biomechanics (Prof. Dr. Philippe Büchler)

«**A database framework to incorporate statistical variability in biomechanical simulations**»

Ramesh Kudira, PhD in Biomedical Sciences (April 25)

Department of Clinical Research, Visceral and Transplantation Surgery (Prof. Dr. Guido Beldi)

«**Purinergic modulation of innate lymphoid cells during liver regeneration**»

Dominic Kummer, PhD in Biomedical Sciences (May 27)

Department of Clinical Chemistry, Inselspital, Bern University Hospital (Prof. Dr. Carlo R. Largiadèr)

«**Beyond dihydropyrimidine dehydrogenase: Genetic and phenotypic characterization of fluoropyrimidine pathways in the context of drug-related toxicities**»

Dorothea Lesche, PhD in Biomedical Sciences (August 19)

Department of Clinical Chemistry, Inselspital, Bern University Hospital (Prof. Dr. Carlo R. Largiadèr)

«**Genomics meets metabolomics: Discovering biomarkers for immunosuppressive drug response after heart transplantation**»

Li Liu, PhD in Biomedical Engineering (March 16)

Institute for Surgical Technology & Biomechanics (Prof. Dr. Guoyan Zheng)

«**Development and Validation of Computer Assisted Diagnosis, Planning and Navigation System of Periacetabular Osteotomy (PAO)**»

Camilla Marini, PhD in Biomedical Sciences (June 6)
Department of Clinical Research, Prenatal Medicine (Prof. Dr. Daniel Surbek, PD Dr. Marc Baumann)

«Placental transport systems and their impact on fetal programming»

Thanks Marisa, PhD in Biomedical Engineering (May 2)
Bern University of Applied Sciences, Engineering and Information Technology (Prof. Dr. Rolf Vogel)

«Sub Nyquist-Rate Sampling for Space-Restricted, Long-Term Oesophageal ECG Signal Recording»

Federico Mele, PhD in Immunology (June 29)
Institute for Research in Biomedicine, Bellinzona (Dr. Federica Sallusto)
«Molecular regulation of cytokine production and response to *Mycobacterium tuberculosis* by human CD4 memory T cells»

Negahnaz Moghaddam, PhD in Biomedical Sciences (December 16)
Institute of Forensic Medicine (Prof. Dr. Christian Jackowski, Dr. Sandra Lösch)
«Diet, status, and mobility in Late Iron Age Switzerland: A bioarchaeological study of human remains based on stable isotope analyses»

Sara Montagner, PhD of Science in Biochemistry and Molecular Biology (May 18)
Institute for Research in Biomedicine, Bellinzona (Dr. Silvia Monticelli)
«Understanding mast cell proliferation and functions via epigenetic modifications and microRNAs»

Monika Müller, MD, PhD (December 9)
Department of Anaesthesiology and Pain Therapy, Inselspital, Bern University Hospital (Prof. Dr. Michele Curatolo, Prof. Dr. Peter Jüni)
«Clinical application of quantitative sensory tests to assess altered central pain processing in chronic pain patients»

Rishita Narendra Nag, PhD of Science in Cell Biology (November 28)
Institute of Cell Biology (Prof. Dr. Beat Suter)
«*Mms19* and *xpd*: Modulators of mitotic kinases in *Drosophila*»

Byron Oppliger, PhD in Biomedical Sciences (April 13)
Department of Clinical Research, Prenatal Medicine (Prof. Dr. Daniel Surbek, PD Dr. Andreina Schoeberlein)
«Wharton's jelly mesenchymal stem cells as a treatment for preterm brain injury»

Marta Pace, PhD in Neuroscience (June 13)
Department of Neurology, Inselspital, Bern University Hospital (Prof. Dr. Claudio L. Bassetti)
«Role of REM sleep, melanin concentrating hormone and orexin systems in ischemic stroke»

Jarunan Panyasantisuk, PhD in Biomedical Engineering (September 26)
Institute for Surgical Technology & Biomechanics (Prof. Dr. Philippe Zysset)
«Inclusion of Fabric in QCT-based Patient-specific Finite Element Analysis of the Proximal Femur»

Lisa Perruzza, PhD in Immunology (June 17)
Institute for Research in Biomedicine, Bellinzona (Prof. Dr. Fabio Grassi)
«The purinergic P2X7 receptor at the interface between adaptive immune system and bacterial commensals in the intestine»

Elena Proietti, MD,PhD (November 29)

Department of Paediatrics, Inselspital, Bern University Hospital (Prof. Dr. Urs Frey)

«Impact of environmental determinants on lung function and lung development in infants and toddlers»

Viola Puddinu, PhD of Science in Cell Biology (December 13)

Institute for Research in Biomedicine, Bellinzona (Prof. Dr. Marcus Thelen)

«Role of the Atypical Chemokine Receptor 3 in Diffuse Large B Cell Lymphoma»

Ringo Püschel, PhD of Science in Biochemistry and Molecular Biology (April 6)

Institute of Cell Biology (Prof. Dr. Peter Meister)

«Epigenetic and environmental factors involved in *C. elegans* cell fate protection»

Julie Christiane Françoise Rappe, DVM,PhD (October 14)

Institute of Virology and Immunology, Mittelhäusern (Dr. Nicolas Ruggli)

«Study of the porcine reproductive and respiratory syndrome virus biology and interaction with macrophages using reverse genetics»

Miriam Helen Reisenhofer, PhD in Neuroscience (March 7)

Department of Clinical Research, Ophthalmology (Prof. Dr. Volker Enzmann)

«Cellular responses in MNU-induced retinal degeneration»

Andrea Romagnani, PhD in Immunology (June 21)

Institute for Research in Biomedicine, Bellinzona (Prof. Dr. Fabio Grassi)

«Role of ATP-gated ionotropic P2X7 receptor in T effector memory cell physiology»

Simone Carla Rufener, PhD of Science in Biochemistry and Molecular Biology

(March 29)

Department of Chemistry and Biochemistry (Prof. Dr. Oliver Mühlemann)

«Mechanistic aspects of mRNP export, translation and degradation»

Sandra Rupp, PhD in Immunology (June 27)

Department of Clinical Research, Gastroenterology/Mucosal Immunology (Prof. Dr. Kathy McCoy)

«Microbial impact on B cell development and regulation»

Sebastian Rupp, PhD of Science in Biochemistry and Molecular Biology (May 3)

Division of Experimental Clinical Research, DCR-VPH, Vetsuisse Faculty Bern

(Prof. Dr. Anna Oevermann)

«Investigation of *Listeria monocytogenes* genes associated with rhombencephalitis in ruminants»

Laura Schaad, PhD in Biomedical Sciences (September 5)

Institute of Anatomy (Prof. Dr. Valentin Djonov)

«Skeletal muscle's microvasculature: microCT-based imaging and adaptive responses to two modes of endurance exercise»

Matthias Schindler, PhD in Biomedical Sciences (June 27)

Institute of Social and Preventive Medicine (Prof. Dr. Claudia Kuehni)

«The Swiss Childhood Cancer Registry as a population based cancer registry: Completeness and epidemiological indicators»

Christoph Jürg Schneider, PhD in Biomedical Sciences (September 13)

Institute of Pharmacology (Prof. Dr. Stephan von Gunten)

«Protein-carbohydrate interactions in the human immune system»

Christoph Kurt Schweingruber, PhD of Science in Biochemistry and Molecular Biology (August 26)

Department of Chemistry and Biochemistry (Prof. Dr. Oliver Mühlemann)

«Identification of NMD-associated proteins by proximity-dependent biotinylation (BioID)»

Mazvita Sengayi, PhD in Biomedical Sciences (March 10)

Institute of Social and Preventive Medicine (Prof. Dr. Matthias Egger)

«The Epidemiology of HIV-related Cancers in South Africa»

Henna-Maria Sihto, DVM, PhD (April 4)

Institute for Food Safety and Hygiene, Vetsuisse Faculty Zurich (Prof. Dr. Roger Stephan)

«Stress response in *Staphylococcus aureus*: Regulatory mechanisms influencing enterotoxin gene expression under stress relevant to food production and preservation»

Darko Stojkov, PhD in Biomedical Sciences (November 8)

Institute of Pharmacology (Prof. Dr. Hans-Uwe Simon, Prof. Dr. Shida Yousefi)

«Actin polymerization and its glutathionylation are required for NET formation»

Andreas Oliver Stucki, PhD in Biomedical Sciences (September 16)

ARTORG Center for Biomedical Engineering Research, Organs-on-Chip Technologies (Prof. Dr. Olivier T. Guenat)

«A Breathing Lung-on-a-Chip»

David Manuel Stucki, PhD in Neuroscience (July 1)

Institute of Cell Biology (Prof. Dr. Smita Saxena)

«Mitochondrial impairments contribute to Spinocerebellar ataxia type 1 progression and can be ameliorated by the mitochondria-targeted antioxidant MitoQ»

Janick Daniel Stucki, PhD in Biomedical Engineering (August 24)

ARTORG Center for Biomedical Engineering Research, Organs-on-Chip Technologies (Prof. Dr. Olivier T. Guenat)

«Development of a breathing lung-on-a-chip»

Reto Stucki, PhD in Biomedical Engineering (February 1)

ARTORG Center for Biomedical Engineering Research, Gerontechnology and Rehabilitation (Prof. Dr. Tobias Nef)

«Development and Evaluation of a Novel Sensor System to Quantify Behaviour and Performance in Activities of Daily Living in the Older Adults»

Simone Carlo Surace, PhD in Neuroscience (January 11)

Department of Physiology (Prof. Dr. Jean-Pascal Pfister)

«Towards a Functional Understanding of Short-term Plasticity and the Development of a Statistical Model of *in vivo* Neuronal Dynamics»

Elham Taghizadeh, PhD in Biomedical Engineering (May 2)

Institute for Surgical Technology & Biomechanics (Prof. Dr. Philippe Büchler, Prof. Dr. Mauricio Reyes)

«Statistical Shape Model of the Leg to Improve the Treatment of Patella Pathology in Total Knee Arthroplasty»

Luca Tamò, PhD in Biomedical Sciences (March 24)

Department of Clinical Research, Pulmonary Medicine (Prof. Dr. Thomas Geiser)

«The role of induced pluripotent stem cells (iPSC) in lung repair and regeneration»

Lyson Nemoni Tenthani, PhD in Biomedical Sciences (November 9)
Institute of Social and Preventive Medicine (PD Dr. Olivia Keiser, Prof. Dr. Matthias Egger)
«**Prevention of Mother to Child Transmission of HIV (PMTCT) in Malawi: An Assessment of Implementation of PMTCT under Option B+ Program in Malawi**»

Manuela Tham, PhD in Immunology (December 13)
Department of Clinical Research, Rheumatology (PD Dr. Frauke Förger)
«**Regulatory role of $\gamma\delta$ T cell subpopulations in pregnancy induced remission of rheumatic diseases**»

Roman Trikin, PhD of Science in Biochemistry and Molecular Biology (June 17)
Institute of Cell Biology (Prof. Dr. Torsten Ochsenreiter)
«**Characterisation of novel proteins involved in kDNA maintenance in *Trypanosoma brucei***»

Hannock Mukoma Tweya, PhD in Biomedical Sciences (August 18)
Institute of Social and Preventive Medicine, & The Lighthouse Trust, Lilongwe, Malawi (PD Dr. Olivia Keiser, Prof. Dr. Matthias Egger)
«**Evaluating the efficacy of HIV and TB services among HIV-infected individuals accessing antiretroviral therapy in Malawi**»

Stephanie Sarah Uster, PhD in Immunology (March 2)
Department of Clinical Research, Rheumatology (Prof. Dr. Michael Seitz)
«**Effects of anti-TNF α therapy on the distribution of osteoclast precursors in a murine antigen induced arthritis model**»

Waldo Enrique Valenzuela Pinilla, PhD in Biomedical Engineering (August 19)
Institute for Surgical Technology & Biomechanics (Prof. Dr. Mauricio Reyes)
«**Effective Human Machine Interfaces for Medical Image Analysis**»

Samantha K. Wall, PhD in Biomedical Sciences (September 23)
Division of Veterinary Physiology, DCR-VPH, Vetsuisse Faculty Bern (Prof. Dr. Rupert Bruckmaier)
«**Blood-Milk Barrier: Formation, Destruction, and Manipulation**»

Julian Jan-David Wampfler, MD, PhD (March 8)
Institute of Pathology (Prof. Dr. Mario P. Tschan)
«**Aberrant expression of the miRNA pathway in acute myeloid leukemia**»

Simone Katharina Wicki, PhD in Biomedical Sciences (December 16)
Institute of Pharmacology (Prof. Dr. Thomas Kaufmann)
«**Regulation of cell death and innate immune signaling in mouse neutrophils**»

Juliette Ramona Karin Wipf, DVM, PhD (March 17)
Institute of Veterinary Bacteriology, Vetsuisse Faculty Bern (Prof. Dr. Vincent Perreten)
«**Novel macrolide-lincosamide-streptogramin B resistance genes in *Staphylococcus* sp.**»

Daniel Wüthrich, PhD of Science in Biochemistry and Molecular Biology (April 11)
Department of Biology, Interfaculty Bioinformatics Unit (Dr. Rémy Bruggmann)
«**Next generation sequencing in research associated with food industry, clinics and diagnostics**»

Tomasz Piotr Wypych, PhD in Immunology (March 21)
Institute for Research in Biomedicine, Bellinzona (Dr. Federica Sallusto)
«**The role of B cells as antigen presenting cells in a mouse model of asthma**»

Christina Zbinden, PhD of Science in Cell Biology (April 6)

Division of Veterinary Physiology, DCR-VPH, Vetsuisse Faculty Bern (PD Dr. Olga Wellnitz)

«The innate immune reaction and barrier function of bovine mammary epithelial cells in response to different bacterial mastitis pathogens»

Fabian Zellweger, PhD in Immunology (August 18)

Department of Immunology, Inselspital, Bern University Hospital (Dr. Alexander Eggel)

«Targeting Fc receptors to regulate IgE-associated allergic responses»

Shengye Zhang, MD, PhD (May 12)

Department of Clinical Research, Cardiovascular Research (Prof. Dr. Robert Rieben)

«Role of the Plasma Cascade Systems in Endothelial Cell Activation Induced by Peripheral Ischemia/Reperfusion Injury»

Anja Ziegler, DVM, PhD (June 16)

Division of Experimental Clinical Research, DCR-VPH, Vetsuisse Faculty Bern (Prof. Dr. Eliane Marti)

«Dendritic Cells at the Focus for Improvement of Allergen-specific Immunotherapy for Equine Allergies»

Giuseppe Angelo Zito, PhD in Biomedical Engineering (January 22)

ARTORG Center for Biomedical Engineering Research, Gerontechnology and Rehabilitation (Prof. Dr. Tobias Nef)

«Development and evaluation of a new instrument to measure higher visual functions»

We congratulate all graduates on their achievement and wish them all the very best for their future careers. Many of them have already moved on to new, challenging postdoctoral positions at universities all over the world, or have accepted important positions in leading companies or research institutions.

Tables 3 and 4 show the distribution of the graduations in 2016 within the five GCB Expert Committees and within the Faculties/Institutions, respectively.

Degree	Biological Systems	Biomedical Engineering	Biomedical Sciences	Cell Biology	Molecular Biology & Biochemistry	Total
PhD in Biomedical Engineering	0	14	0	0	0	14
PhD in Biomedical Sciences	12	0	7	7	3	29
PhD in Immunology	1	0	0	12	1	14
PhD in Neuroscience	4	0	0	0	0	4
PhD of Science in Biochemistry & Molecular Biology	0	0	0	2	14	16
PhD of Science in Cell Biology	0	0	0	5	2	7
MD,PhD	2	0	3	1	0	6
DVM,PhD	0	1	0	2	4	7
Total	19	15	10	29	24	97
Total in %	19.6	15.5	10.3	29.9	24.7	100.0

Table 3. Graduations per GCB Expert Committee in 2016.

Degree	Faculty of Medicine	Faculty of Science	Vetsuisse Faculty BE	Vetsuisse Faculty ZH	IRB Bellinzona	Total
PhD in Biomedical Engineering	14	0	0	0	0	14
PhD in Biomedical Sciences	28	0	1	0	0	29
PhD in Immunology	8	0	1	0	5	14
PhD in Neuroscience	3	1	0	0	0	4
PhD of Science in Biochemistry & Molecular Biology	2	8	4	0	2	16
PhD of Science in Cell Biology	0	4	2	0	1	7
MD,PhD	6	0	0	0	0	6
DVM,PhD	1	0	4	2	0	7
Total	62	13	12	2	8	97
Total in %	63.9	13.4	12.4	2.1	8.2	100.0

Table 4. Graduations in 2016, according to Faculties/Institutions.

Prizes and Awards

GCB Award for Best PhD Thesis 2016

The GCB congratulates **Mariana De Niz, PhD of Science in Cell Biology**, for winning the «**GCB Award for Best PhD Thesis 2016**». Mariana De Niz received the prize (CHF 3.000.-) on 2 February 2017, on occasion of the GCB Symposium 2017, for her work entitled «**Imaging of malaria: conserved mechanisms of *Plasmodium* sequestration and virulence factor export in rodents and humans**». She performed her research work under the supervision of Prof. Dr. Volker Heussler at the Institute of Cell Biology, University of Bern, and defended her PhD thesis successfully on 15 January 2016.

Mariana De Niz is currently pursuing her career as SNF postdoctoral fellow in Prof. Matthias Marti's lab, at the Harvard School of Public Health in Boston, USA, and the Wellcome Centre for Molecular Parasitology in Glasgow, Scotland. She is working on investigating mechanisms of *Plasmodium* gametocyte egress from the host bone marrow, migration to the host skin, and the dynamics of transmission from the skin to the mosquito vector.



Figure 10. The laureate Mariana De Niz, PhD, after having received the GCB Award for Best PhD Thesis 2016, with her supervisor Prof. Dr. Volker Heussler, Institute of Cell Biology.

Additional Prizes and Awards

We are very pleased to report that in the course of 2016, approximately 50 GCB candidates and GCB graduates received various research prizes and awards, including many poster prizes, awarded by local and international institutions.

Publications

The scientific output of the PhD candidates and graduates also demonstrates the extensive research work going on within the framework of the GCB: In the course of 2016, 186 papers were published in peer-reviewed journals, with GCB candidates and graduates contributing as first authors or co-authors.

A list of GCB publications is available on the BORIS platform (<http://boris.unibe.ch/>), and can be called up via «Advanced Search» ⇒ select «Graduate School for Cellular and Biomedical Sciences (GCB)» in the Graduate Schools box of the electronic form.

MD-PhD Program and MD-PhD Fellowships

The MD-PhD program is intended for medical graduates interested in experimental research and aiming at an academic career. A structured training program within the framework of the GCB enables them to acquire a high standard of knowledge in natural sciences and physiology. According to the guidelines of the National MD-PhD Program, candidates can already start their training in the course of their medical studies and follow relevant courses simultaneously with their medical curriculum.

The National MD-PhD Program, which is supported by the Swiss National Science Foundation (SNSF), the Swiss Academy of Medical Sciences (SAMW), and several other foundations, awards 9 to 13 fellowships every year to outstanding candidates (Human as well as Veterinary Medicine) studying at Swiss universities. For more information, see <http://www.samw.ch/de/Foerderung/MD-PhD-Programm.html>.

In 2016, two of the prestigious 3-year MD-PhD Fellowships were awarded to MD-PhD candidates of the GCB:

- **Anna Wenning**, research group of Prof. Dr. Andrew J. Macpherson, Department of Visceral Medicine and Surgery, Inselspital, Bern University Hospital
- **Thomas Zanchin**, research group of Prof. Dr. Lorenz Räber, Department of Clinical Research, Cardiology

The GCB congratulates the two candidates very warmly on their success and wishes them all the very best for their PhD studies.

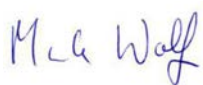
Support and Acknowledgments

The GCB is supported by the University of Bern and by the Faculty of Medicine of the University of Bern.

Since its inception in September 2005, the GCB has been offered the generous hospitality of the Theodor Kocher Institute (TKI): The GCB program coordination and administration are located in dedicated rooms of the TKI and its members are allowed to share the full infrastructure of the institute. Moreover, the GCB Expert Committees, the PhD Committee, and PhD candidates are frequent guests at the TKI Clubroom and TKI labs for meetings, interviews, tutorials, practical courses, exams, and PhD thesis defenses. Our special thanks go to the director, Prof. Dr. Britta Engelhardt, and the whole team of the TKI, for their continuous support, for making this «joint venture» possible, and for giving the GCB a perfectly suitable «home» and center for many of its activities.

Information

www.gcb.unibe.ch/



PD Dr. Marlene Wolf



Gabrielle Favre

March 16, 2017

