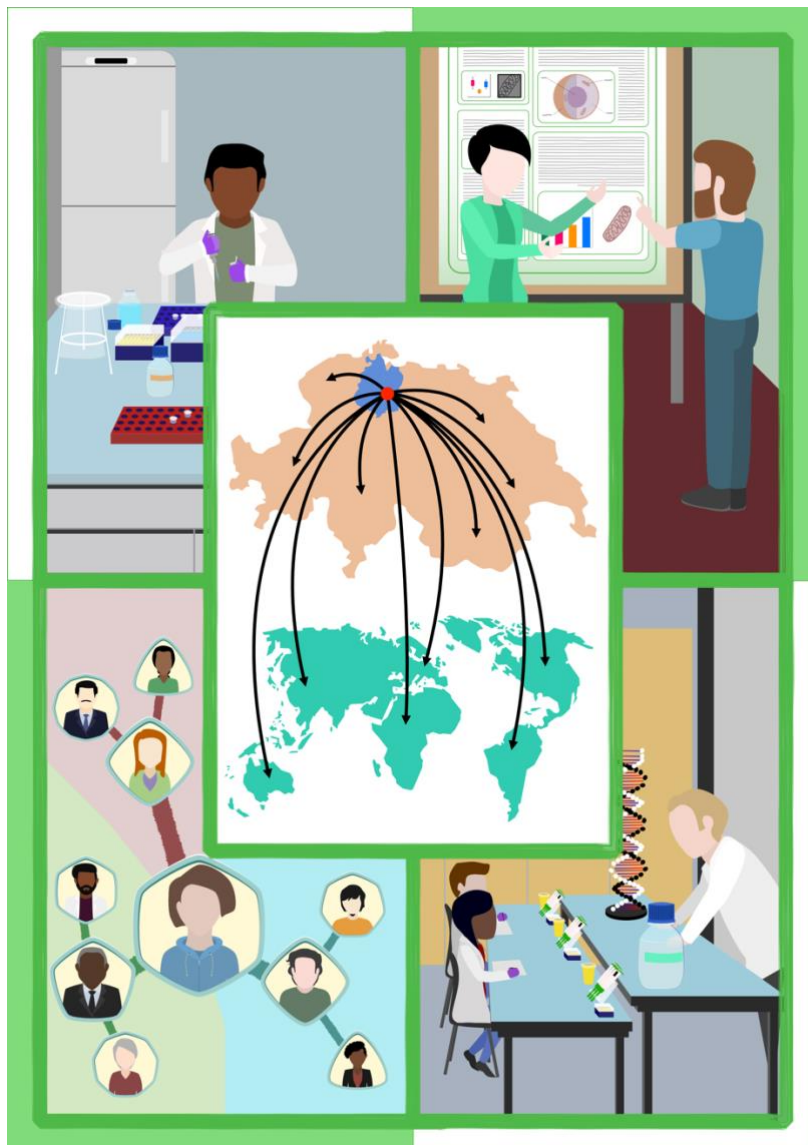




LIFE SCIENCE ZÜRICH

LIFE SCIENCE ZÜRICH GRADUATE SCHOOL ANNUAL REPORT 2023

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Picture: Marco Garbelli

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1 Executive summary

The year 2023 saw no profound transformations at the Life Science Zurich Graduate School. The Graduate School continues to host 16 PhD programs and one MD-PhD program. As of December 31, 2023, the Graduate School supports 1'672 early-stage researchers in their doctoral studies across the various affiliated programs. This represents a slight increase from the 1'664 doctoral students enrolled in 2022. Nearly 60% of our doctoral students are female, and more than 71% come from abroad. Of these students, 64% are enrolled at the University of Zurich, 34% at ETH Zurich, and 2% at other Swiss academic institutions, primarily the Universities of Basel and Berne.

As one of the changes in 2023, the Life Science Zurich Graduate School (LSZ GS) made adjustments to its recruitment process. For the first recruitment round of the year, which had a December 2022 application deadline, the school continued the two-step process that it had previously implemented, involving initial virtual interviews followed by on-site interviews. However, a change was made in the arrangement of the on-site interviews. Unlike the previous round, where applicants were invited on various dates depending on the availability of the PIs, the school reverted to the former practice of hosting all invited candidates simultaneously for the on-site interviews over three designated days. The approach was reviewed favorably, and the Director's Conference voted in favor of keeping the simultaneous on-site visits. In addition, the application deadlines were advanced to May 1st and November 1st from July 1st and December 1st, respectively, effectively shortening the recruitment cycle to approximately two and a half months. The changed dates aimed to distribute the selection rounds more evenly throughout the year, however, the change could only be implemented starting with the fall cycle. Consequently, the summer 2023 recruitment was the final round with individual lab visits. For the November intake, the virtual interviews were scheduled shortly before Christmas, with selected candidates invited to Zurich in the third week of January 2024. To reduce costs, the maximum duration of the stay will be reduced from four nights (before the pandemic) to three nights (Tuesday till Friday, instead of Saturday).

For the November intake, the LSZ GS saw a record high of nearly 2000 complete applications. The boost originated mainly from three countries - India, Pakistan, and China - while application numbers from European countries remained stable or even slightly decreased. Over the past few years, recruitment figures have displayed a mixed pattern of downward and upward trends. More crucial than the volume of applications are the educational background, the experience, and the motivation of the candidates applying for doctoral positions. Like in 2022, the matching rates and the rates of filled positions were on the lower side. Moreover, the Graduate School tends to lose quite a few students to competing programs during the winter intake rounds. However, we shall only see in the coming years whether the adaptations of the recruitment process have positive effects on these rates.

With 45 transferable skills courses and 784 participants, the training offered by LSZ GS has again reached the level of the pre-pandemic years. A significant update was the adoption of the new administrative platform "TrainingPlus", licensed by the University of Zurich. This tool offers various automated process steps, reducing the administrative burden for the organizers. Furthermore, it allows participants to create personal profiles, from which they can unregister from booked courses and can also access and download their attendance certificates. Additionally, the user interface, including the list of workshops open for registration and the student profiles, now aligns with the web design of the University of Zurich and is seamlessly embedded into the online presence of the Life Science Zurich Graduate School.

2 Introduction

The idea of establishing a graduate school to consolidate all the different PhD programs in the Life Sciences offered at the University of Zurich and the ETH Zurich emerged in September 2005. Officially inaugurated on December 8th, 2005, the Life Science Zurich Graduate School became an autonomous branch of the Life Science Zurich Initiative. The LSZ Graduate School currently consists of seventeen highly competitive PhD programs. Thanks to a strong teaching curriculum and a clear mentoring system, these programs consistently attract the best students worldwide.

2.1 Mission

The aim of the Life Science Zurich Graduate School is to promote first-class graduate education in the life sciences at the University of Zurich (UZH) and the ETH Zurich (ETH). The LSZ GS offers centralized services (e.g., recruitment administration, assistance in identifying new funding possibilities) and products (e.g., transferable skills courses) that support established PhD programs and facilitate the development of new programs in the Life Sciences. The centralized administration of these services enables the individual PhD programs to focus on the education of their graduate students within the respective research fields. The individual PhD programs are thereby relieved of administrative tasks and ensuing costs in areas not directly related to their specific research fields.

Specifically, the Life Science Zurich Graduate School aims:

- to increase the visibility and attractiveness of the LSZ-PhD programs worldwide to reach excellent undergraduates who consider doing a PhD in the life sciences
- to initiate the recruitment process to attract the best students internationally
- to improve the coordination of recruitment, avoiding redundant reviews of applicants
- to support the development of new PhD programs
- to improve the coordination of teaching for PhD programs with common areas of interest and/or curricula
- to support the PhD programs by providing a centralized course program in relevant transferable skills for all graduate students
- to provide support on career development for the graduate students; alumni of the LSZ GS should be equipped with the key attributes for successfully entering the competitive job market in the life sciences
- to identify and pursue new funding opportunities for the Graduate School and its member PhD programs (e.g., European funding, foundations, SNF)
- to ensure *quality* and *sustainability* of the services and products of the LSZ GS

The LSZ Graduate School: a family of PhD programs spanning the Life Sciences

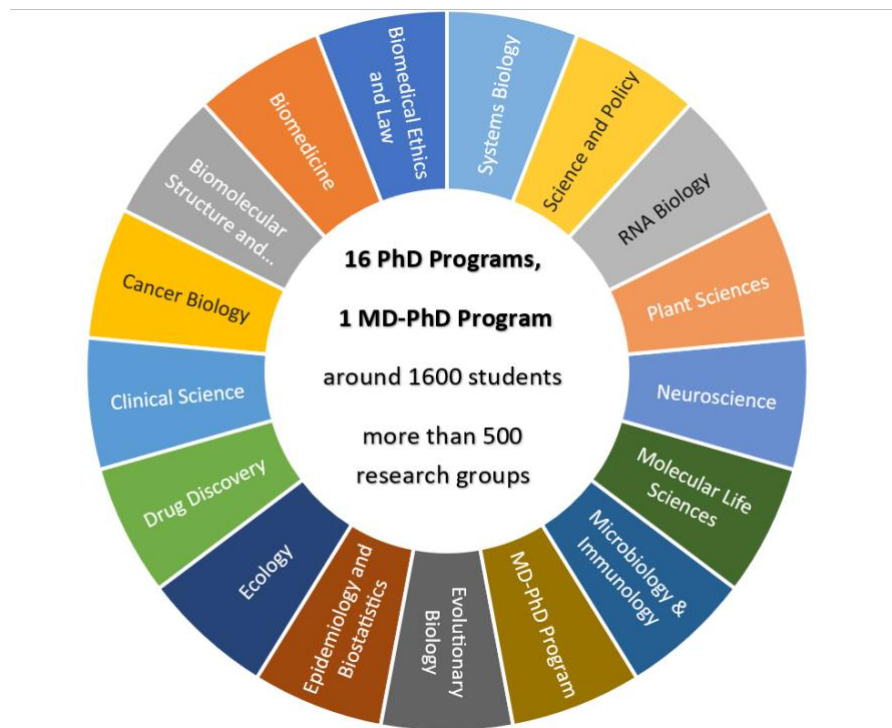


Figure 1: Chart of the LSZ Graduate School PhD programs

2.2 Strategy and products of the LSZ GS

The major units of the LSZ GS are:

- LSZ GS Directors' Conference (program directors from each PhD program form the steering committee)
- PhD programs
- Graduate School office: administration

Table 1: Roles and responsibilities of the LSZ GS units

Unit	Roles and responsibilities
LSZ GS steering committee	<ul style="list-style-type: none"> • Strategic development of LSZ GS • Advice and support for the PhD programs and GS administration • Development of common criteria for quality assurance of the PhD programs • Promotion of relevant contacts within the scientific community of life sciences • Identification of common course needs • Development of a transferable skills curriculum • Identification and development of joint funding initiatives
PhD programs	<ul style="list-style-type: none"> • Evaluation and acceptance of students into the program • Development, implementation, and funding of a discipline-specific graduate curriculum • Quality assurance • Fundraising for a specific PhD program • Tracking development of the students within each program • Funding travel expenses and accommodation for interview candidates from abroad
Graduate School office	<ul style="list-style-type: none"> • Increasing visibility of the PhD programs worldwide • Advertising the graduate school and its recruitment procedure (advertisements on web platforms, posters etc.) • Coordination of the recruitment process (application forms, internal and external communication, i.e., information to PI and to candidates) • Organization of interviews • Funding for PR, the common application platform, and the transferable skill courses • Development and maintenance of the LSZ GS web site for dissemination of information • Financial planning and financial controlling of the LSZ GS activities (esp. recruitment and courses) • Advice and support for the development of new programs (practical procedures, know-how transfer) • Fundraising for LSZ GS in areas <i>independent</i> of a specific research field (e.g., for common activities or for fellowships for students from a specific country) • Development and organization of a centralized Transferable Skills Course Program for all graduate students, including acquisition, commitment, and support of internal and external facilitators, advertising the courses (GS web site) and coordinating sign-up • Support for the career development of graduate students (courses, activities, web-information) • Assurance of quality and sustainability of the services and products of the LSZ GS office • Exchange and collaboration with other units of the Life Science Zurich • Exchange and collaboration with other graduate schools, both in- and outside of Zurich

2.2 a) LSZ GS Steering committee and participating PhD programs

With the fusion of the Integrative Molecular Medicine (imMed) and the Molecular and Translational Biomedicine (MTB) program to the new Biomedicine (BioMed) program that was approved in May 2019 by the PDC, the Life Science Zurich Graduate School got reduced to sixteen PhD programs and a MD-PhD program. Each program is presided by a director, who represents the program in the steering committee (see list below). In 2023, this steering committee met twice to decide on the strategic orientation and development of the Graduate School. Since July 2017, Prof. Eilika Weber-Ban, Institute of Molecular Biology and Biophysics (ETH) is presiding the LSZ GS as chair. Prof. Alex Hajnal, Institute of Molecular Life Sciences (UZH) is the current vice-chair.

Upon the request of the evaluation committee, the LSZ GS has in 2022 set up a working group with representatives of all stakeholders (program directors, coordinators and doctoral students) to consider optimal internal structures to sustain the present excellence of the doctoral training and to oversee a strategy for the trans-institutional school over the next five and ten years. Analogously to the director conference, the working group met twice in 2023.

Table 2: Directors of the LSZ GS PhD programs

Program	Director
Biomedical Ethics and Law (medical track]	Prof. Nikola Biller-Andorno (Institute of Biomedical Ethics, UZH)
Biomedicine	Prof. Christian Grimm (Division of Ophthalmology, USZ) Prof. Katrien de Bock (Institute of Food, Nutrition and Health, ETH)
Biomolecular Structure and Mechanism (BSM)	Prof. Martin Jinek (Institute of Biochemistry, UZH)
Cancer Biology	Prof. Maries van den Broek (Institute of Experimental Immunology, UZH)
Clinical Science	Prof. Dr. med. Beatrix Latal (Children's hospital Zurich)
Drug Discovery	Prof. Michael Arand (Institute of Pharmacology and Toxicology, UZH)
Ecology	Prof. Jordi Bascompte (since September 2023) Prof. Anna-Liisa Laine (until August 2023) (Institute of Evolutionary Biology and Environmental Studies, UZH)
Epidemiology & Biostatistics	Prof. Torsten Hothorn (Institute of Social and Preventive Medicine, UZH) Prof. Milo Puhon (Institute of Social and Preventive Medicine, UZH)
Evolutionary Biology	Prof. Kentaro K. Shimizu (Department of Evolutionary Biology and Environmental Studies, UZH)

Program	Director
MD-PhD Program	Prof. Adriano Aguzzi (Institute of Neuropathology, UZH) Prof. Alexandra Trkola (Institute of Medical Virology, UZH)
Microbiology & Immunology (MIM)	Prof. Rolf Kümmerli (Department of Quantitative Biomedicine, UZH) Prof. Jörn Piel (Institute of Microbiology, ETH)
Molecular Life Sciences (MLS)	Prof. Ohad Medalia (Department of Biochemistry, UZH)
Neurosciences (ZNZ)	Dr. Wolfgang Knecht (Institute of Brain Research, UZH)
Plant Science (PSC)	Prof. Samuel Zeeman (Institute of Agricultural Science, ETH)
RNA Biology (RNA)	Prof. Frederic Allain (Institute of Biochemistry, ETH) Prof. Norbert Polacek (University of Berne)
Science and Policy	Prof. Ueli Grossniklaus (Institute of Plant Biology, UZH)
Systems Biology	Prof. Uwe Sauer (Institute of Molecular Systems Biology, ETH) Prof. Jörg Stelling (Department of Biosystems Science and Engineering, ETH)

Program administrators, who oversee day-to-day affairs, normally also participate in steering committee meetings. Since May 2023, they are granted four votes in the Program Directors' Conference and are now equally represented as the student body. In addition, they have their own meetings to discuss more practical issues as well as administrative matters. They get together irregularly throughout the year and also gather informally for lunch or coffee. The following persons currently act as program administrators:

Table 3: Administrators of the LSZ GS PhD programs

Program	Administrator
Biomedical Ethics and Law (medical track]	Dr. Roberto Andorno Michelle Heimgartner (Institute of Biomedical Ethics, UZH)
Biomedicine (BioMed)	Andrea Schmitz (ZIHP, UZH)
Biomolecular Structure and Mechanism (BSM)	Iryna Bottcher (since June 2023) Judita Tillova (until May 2023) (Institute of Biochemistry, UZH)
Cancer Biology	Bettina Rausch (Institute of Molecular Cancer Research, UZH)
Clinical Science	Lea Schwab (Dean's Office of the Faculty of Medicine UZH)
Drug Discovery	Susanne Holliger (until August 2023) Sylvia Peleg (since August 2023) (Institute of Pharmaceutical Sciences, ETH) Olga von Niederhäusern (Institute of Pharmacology and Toxicology, UZH)
Ecology	Dr. Debra Zuppinger-Dingley (Institute of Evolutionary Biology and Environmental Studies, UZH)
Epidemiology & Biostatistics	Dr. Marco Kaufmann (Institute of Social and Preventive Medicine, UZH)
Evolutionary Biology	Dr. Tony Weingrill (Anthropological Institute, UZH)
MD-PhD Program	Artemi Bendandi (Institute of Neuropathology, UZH)
Microbiology & Immunology (MIM)	Judith Zingg (Institute of Microbiology, ETH)
Molecular Life Sciences (MLS)	Dr. Susanna Bachmann (Institute of Molecular Life Sciences, UZH)
Neurosciences (ZNZ)	Heidi Gauss (Neuroscience Center Zurich, UZH & ETH)

Program	Administrator
Plant Science (PSC)	Dr. Melanie Paschke Dr. Luisa Last Dr. Yvonne Steinbach (Institute of Plant Science, ETH)
RNA Biology (RNA)	Rahel Büchi (Institute of Biochemistry, ETH)
Science and Policy	Dr. Luisa Last (Institute of Plant Science, ETH)
Systems Biology	Dr. Andrea Huber Brösamle Simone Zuber (Department of Biosystems Science and Engineering, ETH)

Graduate School student body 2023

Table 4: Graduate School Student Body

Details of each program are published in appendix 2.

Total numbers as of 31 December 2023	
Total students	1672
Affiliated at UZH	1068
Affiliated at ETH	565
Other affiliation	37
Track I students*	570
Track II students*	1087
Female students	993
Male students	679
International students	1193
Swiss students	478
Program drop-outs*	130
Completed PhD*	299
Program alumni	3547

*without the data from the Drug Discovery PhD program

2.2 b) Graduate School office

Since 1 April 2006, the Graduate School has had its own administrative office. Dr. Susanna Bachmann is employed on a part-time basis of 40% and attends the day-to-day business of the LSZ GS. Since June 2011, Helen Stauffer has been working as assistant for Life Science Zurich. She dedicates about 25% of her employment to the LSZ GS. Starting by the end of February the office was for twelve months supported by Olena Illiasevych, who had 80% employment with Life Science Zurich but dedicated most of her time to the Graduate School.

The school administrator participated in the PRIDE workshop on Scientific Integrity in Porto on 2 and 3 May and she also attended the following annual conference on 4 and 5 May. From 28 to 29 September, she encountered her colleagues from the coordinator network at Human Technopole in Milan. Furthermore, she was present in Frankfurt at the GRADE (Goethe Research Academy for Early Career Researchers) award ceremony for the best supervisor and met on 14 December with the members of advisory board for the annual encounter.

In addition, she participated in the launch event of the new advice paper entitled "LERU's view on holistic doctoral supervision" on 28 February, attended a ChatGPT introductory course organized by the ETH library on 26 September and a few days later, on 5 October, a workshop on "mindfulness" by Annika Martin and offered by the Graduate Campus.

3 Activities

3.1 Recruitments

As in former years, for both recruitment rounds the applicants of the Indian subcontinent (India, Pakistan, and Bangladesh) formed the largest group (approximately 1/4 of all applicants of the July and 1/3 of the November deadline). They were followed by students from China, Iran Italy, Nigeria, and Germany in varying order for the two deadlines (see appendix 3).

Table 5: Complete applications per PhD program in 2023

	1 Dec. 2022	1 July 2023	1 Nov. 2023
Biomedical Ethics and Law (med. Track)	no data	no data	no data
Biomedicine	90	108	134
Biomolecular Structure and Mechanism	37	38	57
Cancer Biology	210	281	301
Clinical Science	12	43	11
Drug Discovery	99	83	130
Ecology	37	52	84
Epidemiology and Biostatistics	64	163	102
Evolutionary Biology	17	18	33
Microbiology and Immunology	210	255	327
Molecular Life Sciences	200	201	269
Neuroscience	153	no recruitment	185
Plant Science	56	68	150
RNA Biology	23	19	44
Science and Policy	12	24	27
Systems Biology	76	63	98
TOTAL	1'296	1'416	1'952

With the new November 1-deadline the PhD programs received a new record-breaking high of complete applications. While in past intake rounds the increase was usually more or less equally spread over the different countries, the boost was this time mainly due to an intensive sharing of our adverts via social media in India (257 applications in July, 385 in November) and Pakistan (83 in July, 293 in November) as the statistics from our websites show. Furthermore, the numbers doubled for China from 114 to 216 from July to November – no surprise after the long travel restrictions due to Covid. If one focuses on applicants who had obtained their Master's in Europe, the application numbers vary only modestly from round to round as the top 10 on the list show:

Table 6: Applications by country

Country	July 2023	rank	Nov.23	rank
Italy	69	5	51	6
Germany	56	6	63	5
Switzerland	41	7	45	8
Turkey	36	8	42	9
Greece	17	14	39	11
Spain	14	16	25	13
UK	13	17	24	14
Netherlands	10	22	11	26
France	9	23	17	20
Poland	5	35	13	23

A glance at the total of application numbers in figure 2 makes it obvious that there has been a steady boom and bust over the years. Three observations can be made for 2023: Campaigns on social media must be done with care and consideration. Although the easy spreading of calls for application is a strong plus, the downside is that re-postings are out of control and may invite many persons with an unsuitable background to apply. The use of AI has unsurprisingly arrived at the Life Science Zurich Graduate School as well. On the one hand, the content of the applications is getting more and more homogeneous and therefore more difficult to evaluate. On the other hand, applications are faster completed with the use of ChatGPT and alike tools and this might not only contribute to the increase of application numbers (and the workload of coordinators and reviewers) but also make it easier to apply at more programs at the same time. Finally, the phenomenon of high numbers of unfinished or not submitted applications could also be observed in 2023. Maybe it must simply be accepted as a fact that during an application round, more than half of the students give up their initial plans to apply with the Life Science Zurich Graduate School and abandon their candidature. In any case, LSZ GS will have to watch these numbers closely in the coming months and act appropriately, if indicated.

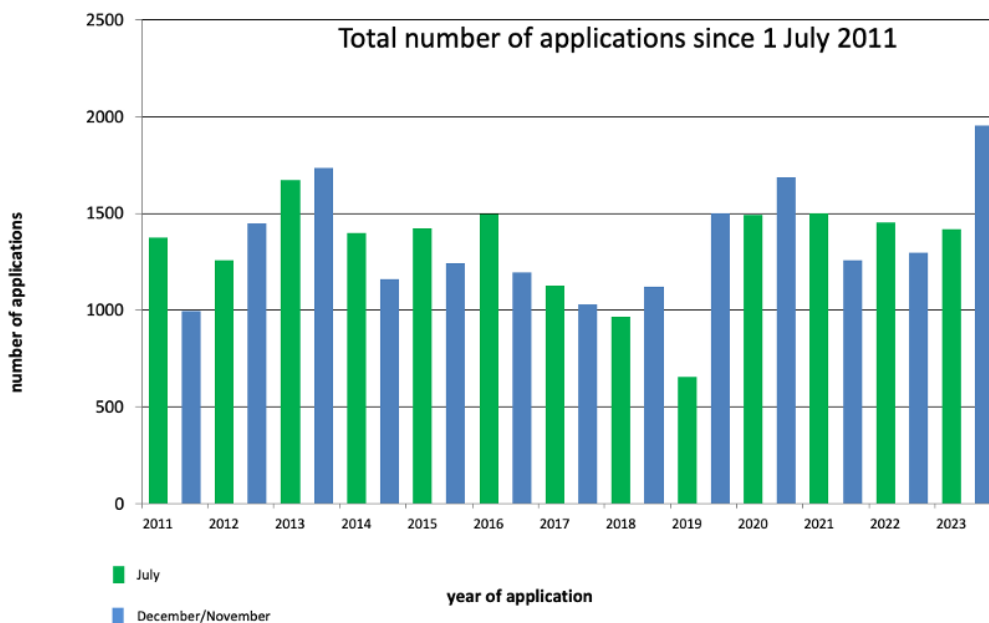


Figure 2: Total number of applications since 1 July 2011

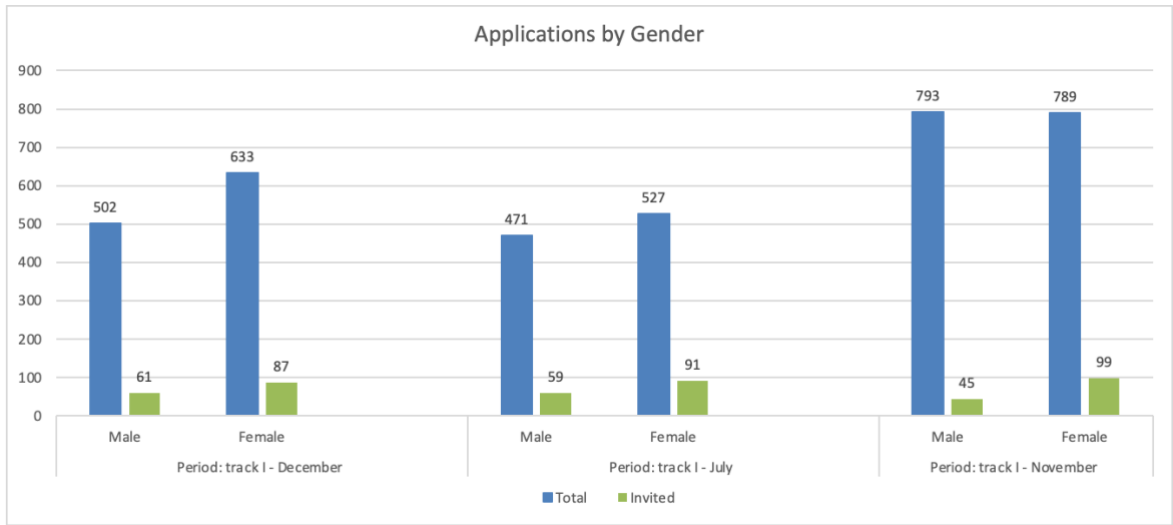


Figure 3: Total number of applications by gender

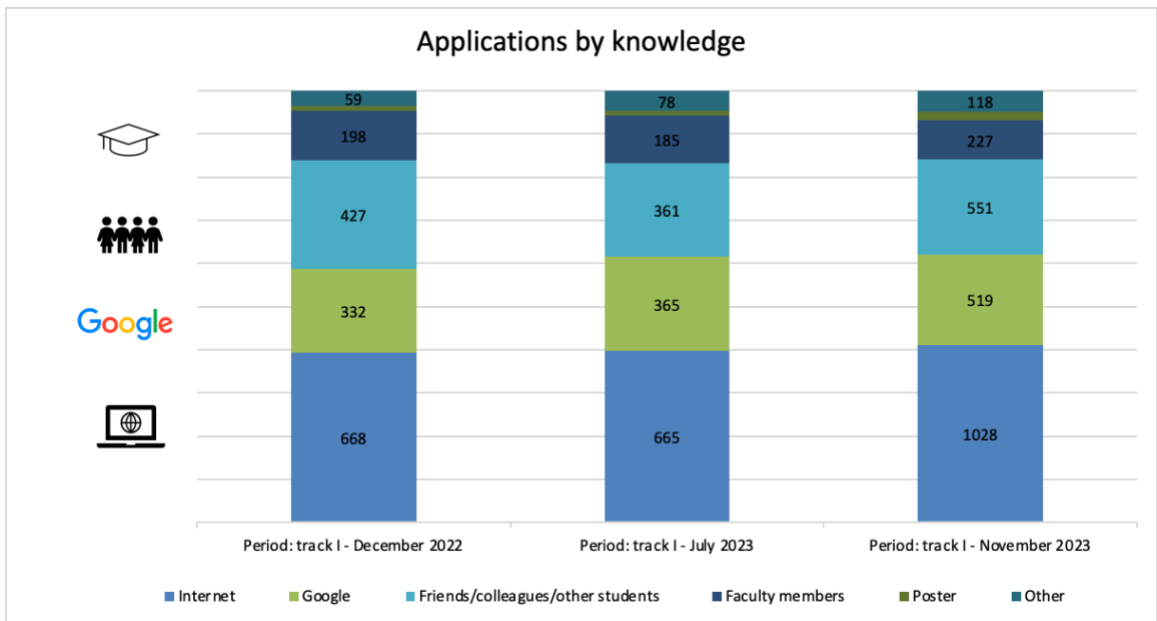


Figure 4: Total number of applications by knowledge

After the admission committees of the different programs had reviewed the applications, the top 7.5 -11% of the applicants were invited to virtual admission interviews. This is less than in former years, but a logical result of higher application numbers and stable numbers of free slots. Whereas in November, only 30% of the interviewed candidates were offered a position in Zurich, this rate was with 38% (December '22) and 41% (July '23) and a bit higher in the other two rounds. All three rounds were on the average side of recruitment success compared to previous years. In the winter rounds, 26% (December '22) and 28% (November '23) of the accepted candidates rejected a position offered by our group leaders, dropped out of the recruitment process after the virtual interview or the in-person visit. In contrast, with 10% this ratio was quite a bit lower in summer and just within the range of past rounds (4-10%). Many of the other strong life science programs in Europe are recruiting in the same period in winter and we assume that some of the students who turned down our offer joined one of these programs. The drop-out rates before the interviews were with 8% (November '23), respectively 11% (December '22) rather on the low side and with 18% for the July deadline within the average of former recruitment rounds (15-20%).

Table 7: LSZ GS recruiting statistics in 2023

	Dec. 1, 2022	July 1, 2023	Nov. 1, 2023
Complete applications	1300	1416	1952
Invited candidates	149	150	145
Drop-outs before interview	16	27	11
Candidates at interview	133	123	134
Free slots	99	83	93
Occupied slots	51	43	40
Matches	49	50	42
Candidates without matches	44	55	59
Drop-out after interview or site visit	22	9	12
Decision against LSZ GS	11	1	13
Rejected candidates	7	8	8

For the November '23 deadline we managed to fill only 43% of the open positions. For December '22 and June '23 this ratio was with 52% a bit higher, but still clearly less than the 70% we had achieved in 2021. In general, these figures show that the LSZ GS is currently struggling more than in recent years to attract suitable candidates for the offered projects.

Because not all open positions can be filled during a given recruiting round and some outstanding applicants do not want to wait for 6 months, if they have just missed an application deadline, all programs also accept "track II" candidates. Track II students are students who have applied independently to (and have been accepted by) a group leader who is a member of a specific PhD program. This more traditional way of recruiting students is more pronounced in some programs than in others. Currently, about 5 out of 8 students are hired via track II. Applications of track II students are administrated directly by the different programs.

3.2 Data systems and webpages

Databases play a crucial role in accomplishing the different administrative processes of the Life Science Zurich Graduate School. Coping with the many tasks the office has to handle nowadays seems more or less impossible without all the bespoke tools we have at our disposal. However, the tools get quickly useless if the data systems are not professionally serviced and updated. And from time to time, it is necessary to replace one system with a newer one.

The Graduate School had hoped that it can introduce two new databases in 2023. Luckily, 50% of what was planned could be implemented: at the beginning of the year "TrainingPlus" was put in use and in May the former course administration tool was put off-line. "TrainingPlus" is ever since used for the entire course administration and has so far been working very reliably. A big plus of this database is not only that it comes free of costs for the LSZ GS, because UZH is footing the license fees. Also, the different units using the database have formed an internal group for exchanging best practices. The regular meetings in "Teams" have helped everyone to find appropriate solutions for smaller problems and get familiar with the many details of this sophisticated tool. One of the advantages for the administration is that deregistration from courses can now be done by the participants themselves and the next person on the waiting list is automatically invited to attend the course. Furthermore, the certificates of attendance are stored in the students' profile and can be accessed and downloaded any time they wish. Although minor tasks, these things required quite a bit of time when done manually. Overall, the switch to "TrainingPlus" proved to be a clever move, as the Graduate School's course administration can now be handled much more efficiently and the course listing on the websites as well the registration process for the doctoral students have lost their outmoded appearance.

Unfortunately, the replacement of DissGo - the LSZ GS's own database to administer the doctoral process from the beginning to the end - is not yet a success story. The Faculty of Science had kindly offered the Graduate School to use the studentadmin as a basis for a new tool with some add-ons for the UZH students and a separate login and access for the ETH students. Moreover, the very cooperative team of the IT manager at the Department of Mathematics had agreed to take over the lead in merging DissGo into studentadmin and programming the additional access for the ETH students. Nevertheless, the project got early in the year nearly completely stalled. On the one hand, it took several months until the agreement with ETH on the use of the students' data could be renewed and a new contract signed. On the other hand, the request to slightly extend the already existing intersection for the data transfer first remained for many weeks unanswered and then had to go through an internal assessment procedure before we got the green light for the update. For these reasons, the project of integrating DissGo in the studentadmin data system had hardly made any progress by the end of 2023. Despite all the setbacks, we are - cautiously – optimistic that we can realize the project

in 2024.

In the course of the year, LSZ GS also revised its websites. UZH had introduced a new version of the content system “Magnolia” and therefore all pages needed to be checked carefully for any inconsistencies. While doing so, a large part of the content was refreshed and updated. Furthermore, with the newly added “Skills development” page a recommendation of the evaluation was put into place. The page is a collection of links to the different training offers at ETH and the University of Zurich and to some external collaborators who offer workshops for the Graduate School. We hope that the page will make it easier for the doctoral students to find the right courses for their further education and personal development.

3.3 Transferable skills courses

Besides the centralization of the application process, one of the main motivations to establish the Graduate School was to offer common courses, which are not related to the specific scientific focus of a program. The Transferable Skills Course (TSC) program of the Life Science Zurich Graduate School helps early-stage researchers develop important skills needed for their dissertation project and future careers, whether in science, industry, or the public sector. The offered courses can be grouped into 5 categories: Best Scientific Practice and Ethics, Communication & Presentation Skills, Methodical Skills, Scientific Writing and Communication as well as Social and Self-Management Skills.

Nearly 800 PhD students took part in one or several of the 45 courses that were organized by the LSZ GS in 2023. 10 of the offered courses were organized together with a PhD program or another unit of the universities, such as the Functional Genomics Center Zurich or the Animal Welfare and 3R. Three course formats were offered by in-house staff and thus not liable to costs.

For organizational reasons, the LSZ GS also offers a few methodological courses within the TSC: DNA Next Generation Sequencing and Transcriptomics RNA Sequencing. These courses are normally taught by the facility centers of the universities, such as the Functional Genomics Center or the Flow Cytometry and the Microscopy and Imaging Centers.

After the pandemic, the Graduate School moved back from online format to on-site for their transferable skills course program. Still, about a third of the courses are conducted online and in hybrid format. In the past years, most of the professional trainers changed and adapted their courses to specific settings of remote teaching and learning. In fact, many of them offer in the meantime very sophisticated webinars in which self-study parts, plenum discussions and Q/A sessions with the trainer are ideally balanced. It is therefore expected that courses without a strong focus on social interactions of the participants may remain online for the time being. A choice of different formats – in-person, embedded, online or hybrid – will make the TSC even more attractive and most likely the enormous impulse the pandemic had on the digitalization of society will have a continuous impact on how we teach. Finally, the online formats may help the LSZ GS to keep its carbon footprint as low as possible if they have not to fly in trainers from abroad to teach the doctoral students.

Table 8: Transferable Skills Courses offered to the Graduate School Students in 2023

Course category	Number of course offers	Attended by total students	UZH students	ETH students	Other affiliation
Best scientific practice & ethics	11	325	228	85	12
Communication & presentation skills	12	165	115	44	6
Methodical skills	4	40	27	12	1
Scientific writing & publishing	8	113	82	28	3
Social & self-management skills	10	141	102	32	7
Total	45	784	554	201	29



Figure 5: Numbers of course offers by category

Table 9: Course program in detail

Transferable skills courses for PhD students 2023	Number of courses	Number of participants	UZH affiliation (incl. USZ & Kispi)	ETH affiliation	other
Best scientific practice & ethics	11	325	228	85	12
BIO 662: Ethical Issues in Human Genetics and Genomics	1	18	10	8	
BIO 663 The impact of ethics on doing science	1	19	5	13	1
BIO 664: The 3Rs and the Ethics of Animal Research	1	16	12	3	1
BioEntrepreneurship & Innovation (BEI) program Module A, B, C (by IREM, UZH)	4	54	37	17	

Introductory Lecture to Good Scientific Practice and Scientific Integrity (2 x online, 1 x on-site)	3	206	154	42	10
Patenting in Life Sciences and Chemistry	1	12	10	2	
Communication & presentation skills	12	165	115	44	6
Effective Visual Communication of Science	2	37	23	13	1
Filmmaking for Scientists	1	14	9	2	3
Logic and Reasoning for Scientists	1	14	5	7	2
Navigating Social Media	1	19	12	7	
Negotiation Skills for Scientists	1	12	10	2	
Presentation Fundamentals - the modern academic's blueprint to impactful presentations	1	15	11	4	
Presenting Science	1	10	9	1	
Science Events Planning and Management (on-site)*	1	10	9	1	
Scientific Posters: design and pitching	1	20	15	5	
Speaking with Confidence and Impact	1	10	9	1	
Storytelling & Storyboarding Science at Locarno Film Festival	1	4	3	1	
Methodical skills	4	40	27	12	1
BIO 675 RNA Next Generation Sequencing	2	16	10	6	
BIO 680 DNA Next Generation Sequencing	1	8	7	1	
Introduction to R: Orientation to R Studio software and R language	1	16	10	5	1
Scientific writing & publishing	8	113	82	28	3
Argumentation in Scientific Writing	1	13	11	2	
BIO 661 Scientific Writing & Effective Communication	2	39	25	13	1
Managing your Publication Workflow and your Open Data (offered by PSC)	1	4	4		
Scientific Writing & Publication in Life Sciences (online)	2	34	28	4	2
Writing a Post-doctoral Grant (offered by PSC)	1	12	6	6	
Writing Fellow Training at Life Sciences Zurich	1	11	8	3	

Social & self-management skills	10	141	102	32	7
Mindfulness & Meditation: a beginners' guide	1	15	12	3	
Project Management (beginners & advanced course)	2	26	20	5	1
The Postdoc Workshop: getting funded, choosing the right lab, and understanding the academic job market	1	18	15	3	
Successful Start of a Professional Career	2	27	17	8	2
Teaching Science at the University (starting HS 2022)	1	12	9	2	1
Time- and Self-Organization Workshop	1	20	11	6	3
Unfolding your Self-confidence (on-site)*	2	23	18	5	
Total of all courses	45	784	554	201	29

3.4 Evaluations

In 2019, the Evaluation Office of the University of Zurich had informed that it wanted the LSZ GS to participate in the evaluation of the Third Cycle. This cycle places a stronger focus on the management processes, strategic policies, and development plans of the units under evaluation. A year later, three experts met with all stakeholder groups individually and commonly for the final discussion and debriefing. The experts' findings were summarized in a comprehensive and elaborate report, which included many helpful recommendations not only for the Graduate School but also for the Faculty of Science. Roughly summarizing, the recommendations focus on the areas of the LSZ GS's governance, the quality of its management and administration as well as the quality of the doctoral training, the student recruitment and admission and, finally, the finances and resources.

In spring 2021, the Evaluation Office was facilitating a meeting of faculty representatives and the LSZ GS to negotiate the further strategies and developments of the Graduate School. The suggestions made by the experts were discussed in detail and it was collectively decided which recommendations should and could be implemented by the LSZ GS. Later that year, the LSZ GS submitted its implementation plan to the Vice Dean of the Faculty of Science specifying for each recommendation corresponding measures for implementation and an appropriate time frame for the realisation. In fact, some measures such as the appointment of a working group and the inclusion of student representatives in the PDC's own assemblies were already put into action in 2021.

During the next two years the LSZ GS was further working on the implementation, so that quite a few measures had been realized when the evaluation called for a final meeting in December 2023. The integration of DissGo in the studentadmin database is still a task to complete and the Graduate School will also have to put in place a regular meeting with the Faculties of Science, Medicine, and ETH's vice dean of the doctorate. The most debated recommendation, the increase of the office's human resources to 1 FTE, remains unresolved till this day. The LSZ GS had handed in a business plan in Summer 2023, which was later updated with additional tables and information. Nonetheless,

the Faculty of Science, though in principle benevolent towards the school's request, did not yet consider the arguments to be convincing enough to increase the human resources of the central administration. The two parties are, however, still willing to bring the negotiations to a fruitful end and shall meet again in 2024 to reconcile the remaining differences.

In addition to the Third Cycle evaluation, the LSZ GS also had to hold another quality meeting in late Spring 2023. The meeting was conducted in zoom and a small group consisting of two student representatives, two program coordinators, two program directors, the vice chair and the school office was deliberating about the previously defined topics. They were mainly reviewing the transparency of the admission process – a subject raised by the Dean of Study. In addition, the group discussed the flow of communication between the Graduate School and the Faculty of Science could be improved and they agreed that coordinators should, analogously to the doctoral students, have four voting rights in the Directors' Conference. This point was brought forward to the PDC and has been accepted and implemented in the meanwhile.

4 On-going projects

We have just pointed out in one of the previous chapters that it is still an utmost concern of the LSZ GS to bring the disconcerting and for the students of the Faculty of Science confusing situation of two parallel data systems to an early end. For these reasons, the Graduate School is very grateful to the Dean of Studies that he has allowed adding additional data and certain features from DissGo also in the studentadmin database and - even more important – to make it possible that also the doctoral students from ETH can get separate access to the studentadmin. This way all the data will be again stored in the same system offering the LSZ GS the possibility to also manage data in its own right that is not needed by the other graduate schools of the faculty of science. It is definitely in the LSZ GS's best interest to press ahead with the project and to bring this merger to a successful end in 2024.

Although the LSZ GS has currently no plans to extend the application database "join" on a bigger scale, there are always a few minor adjustments to be made. We have some plans to introduce a topic-based search across the programs (e.g., computational skills) and to provide more information for the PIs which labs the invited candidates are meeting. However, these projects currently do not have very high priority, because we would like the programmers to press ahead with the fusion of "DissGo" with studentadmin as soon as the open questions with ETH shall be solved.

In regard to the application data system, the steering committee of the Graduate School might also have to address the question how the use of generative artificial intelligence should be handled or regulated. Such questions concern the drafting of the text parts by the candidates on the one hand and AI based assessment of the applications during the review process. Though currently still written in the stars, they might also have to ponder whether one should aim to integrate AI functions into the application system itself and how LSZ GS could finance such extensive adaptations of the database.

This question leads to the everlasting quest for stable and long-term funding for the Graduate School and its PhD programs. The extra aid of ETH and UZH that partially makes up for the losses caused by the out-phasing of the swissuniversities scheme will expire by the end of 2024. By then, the structural funding problems of the school and programs will become even more urgent and pressing. In fact, the working group who assumed office in summer 2022 has already presented the Program Directors' Conference several areas in which they detect either opportunities to raise money or streamline tasks and jobs executed by the individual programs. None of these fields implicate ready-made or comfortable solutions. Therefore, it seems very likely that this topic will remain on top of the

agenda of the Graduate School and require an unbiased approach to discuss convincing and long-lasting solutions together.

5 Finances

Since UZH and ETH signed their agreement in 2010, the Life Science Zurich Graduate School obtains CHF 700'000 from its host institutions annually. Each year ever since, the directors' conference works out a distribution key (see Appendix for the 2023 key) to allocate the funds. As the distribution of the funds per capita would have been very disadvantageous for the smaller programs, the directors' conference agreed on paying each program a fixed allowance besides the per capita contribution. In order not to penalize the bigger programs, the allowance is slightly graded but for many years already all the programs have more than twenty students and therefore obtain the maximum share of CHF 14'000, so that the grading has become useless. As the LSZ GS does not want to encourage a long duration of the PhD, students are only financed until the end of their fourth year. This means that the programs obtain the same amount of money for all students, irrespective of how long it takes them to complete their PhD.

As detailed above, the UZH headship delivered its promise to compensate those programs that had obtained swissuniversities money. ETH followed suit in 2022 and matched the UZH funds accordingly as of 2023. The University has always stressed that the support will not be extended beyond 2024, which means that the urge to find additional funding might become pressing for the programs depending heavily on these extra funds.

However, irrespective of whether the two universities are assisting a few programs with a bit of extra money, the LSZ GS has not been able to fund all its PhD programs for a longer while already. Most of the programs (partially) affiliated with the Medical Faculty do not obtain any financial support via the Graduate School. On the contrary, the Clinical Science and MD-PhD programs pay a membership fee. The RNA Biology program receives funding from the NCCR RNA Biology and thus asks the Graduate School to pay only for the per capita fee of its PhD students but not for the allowance, which is covered by the NCCR. Although the student body is slightly growing at the moment (it rose from 1071 funded PhD students (year 1 to 4) in 2011 to 1'257 in 2016, dropped to 1'178 in 2020 and has raised to 1'282 in 2023), the pecuniary resources for most programs have decreased over the past years because of the addition of new programs and the continuous growth of the student body. In contrast, the support by UZH (CHF 400'000) and ETH (CHF 300'000) remained unchanged since the agreement has been signed in 2010.

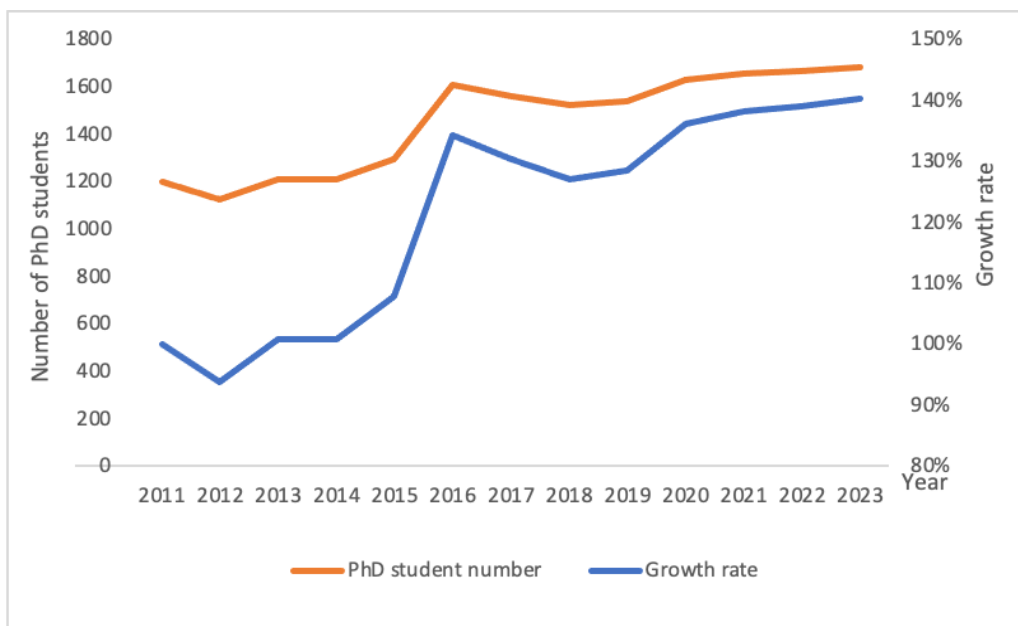


Figure 6: Student numbers at LSZGS and growth rate between 2011 and 2023 (exact numbers in Appendix 2). Please note that this table shows the total number of students. The numbers thus differ from the numbers mentioned above and in Appendix 1, where only the students from year 1 – year 4 are listed.

Although the budget is tight, it is still a central interest of the LSZ GS to get raised the human resources for the school's office to 1 FTE – mainly so because the current tasks can hardly be tackled with the 0.65 FTE currently available for school assistance and management. Should the Faculty of Science be able to only cover a part of the roughly CHF 45'000 such an employment increase will cost, the Graduate School could still economize a bit on the courses of the transferable skills program. The offer has steadily grown during the pandemic years and clearly exceeded last year the allotted share of CHF 70'000. For the programs, by contrast, saving might be much more demanding than for the Graduate School. On the one hand, some of them face already certain budget holes because the swissuniversities support is only marginally compensated by the universities. On the other hand, soaring travel fares and additional sustainability costs render recruitment increasingly costly. As a fully virtual recruitment is not entirely satisfying, cutting costs is not an easy task to accomplish.

Table 8: Annual Account LSZ Graduate School 2023

Earnings 2023	CHF
Contribution UZH	128'580
Contribution ETH	21'200
Reimbursement recruitment costs PhD-programs (Sep 2022 & Feb 2023)	70'459
Annual support MD-PhD program	5'000
Annual support Clinical Science Program	12'000
Surcharges courses	2'380
Total earnings	239'619

Costs 2023	CHF
Recruitment rounds (Feb & Sep 2023)	67'604
Transferable skills course program	91'698
Databases (join, PhD Tool), computer services (servers etc.) & hardware	8'707
Marketing (online ads & listings)	13'397
Salary administrator	49'926
Overhead	5'926
Total costs	237'258

Balance as of 31 December 2023	+ 2'361
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The social benefit costs for Susanna Bachmann (CHF 11'497) were covered by the Faculty of Science of the UZH.

Life Science Zurich Graduate School: Recruitment costs 2023 in CHF

Table 9	February (59 Stud.)	September (46 Stud.)
General costs	CHF	CHF
Farewell snack	3'755	
Total	3'755	

	February (59 Stud.)	September (46 Stud.)
Travel & accommodation costs for external students	CHF	CHF
Accommodation	16'397	9'989
Travel costs (includes public transport and meals)	20'703	16'760
Total	37'100	26'749
Costs per student	629	582
Total costs recruitment	40'855	26'749

6 Outlook

As shown in the previous paragraphs, the Graduate School and its programs must continue advocating for a substantial and sustainable improvement of the financial situation, if they do not want to start cutting on their services. Although budget constraints feel annoying and irritating, they can also be seen as a chance to reassess given assumptions how the delivery and funding of services can best be organized. The LSZ GS working group has already started to put certain cards on the table and though the discussions and negotiations will not be plain sailing, the school should trust its strengths and perseverance in overcoming difficulties.

It will be worthwhile for the Graduate School not to focus too much on financial matters but rather to rivet on improving the quality of their services without increasing the budget. It is to be expected that the working group will also throw light on some aspects they consider to be worth improving. This might well concern internal structures and processes but also the core business of the Graduate School: the quality assurance of the doctorate. A continuous and careful evaluation of the trends in the recruitment of doctoral students, the labor market, and the prospects in academia for early-stage researchers are still of paramount importance to discern early on in which direction doctoral education is developing. A response or reaction to new challenges, such as the mushrooming of generative AI tools and the related questions of how they should be responsibly used in the different realms of our professional lives, often depend less on the budget one has at hand, but rather on the thoughtful analysis where the implementation of such instruments is most beneficial for the successful accomplishment of the different tasks the LSZ GS has to fulfill.

Appendix 1: Financial distribution key

Financial support of ETH and UZH in 2023							
Annual contribution ETH: 300 000 CHF			Allowances:				
Annual contribution UZH: 400 000 CHF			up to 10 students: CHF 5,000				
Total contribution: 700 000 CHF			11-20 students: CHF 10,000				
					more than 20 students: CHF 14,000		
Programs	Allowance	ETH students	UZH (MNF) students	Other uni/ faculty	Students total	303 CHF per student	Total amount
Biomedicine	14,000	20	94		114	33,060	47,060
Biomolecular Structure and Mechanism	14,000	38	38	1	77	22,330	36,330
Cancer Biology	14,000	15	121		136	39,440	53,440
Ecology	14,000	28	37		65	18,850	32,850
Epidemiology & Biostatistics	14,000	4	43		47	13,630	27,630
Evolutionary Biology	14,000	1	62		63	18,270	32,270
Integrative Molecular Medicine			11		11	3,190	3,190
Microbiology & Immunology	14,000	84	157		241	69,890	83,890
Molecular Life Sciences	14,000	62	83		145	42,050	56,050
Molecular & Translational Biomedicine		2	4		6	1,740	1,740
Plant Science	14,000	46	33	13	79	22,910	36,910
RNA Biology		10	3	7	13	3,770	3,770
Sciences and Policy	14,000	35	13	3	48	13,920	27,920
Systems Biology	14,000	49	13		62	17,980	31,980
ZNZ/Neuroscience	14,000	74	137	2	211	61,190	75,190
TOTAL CHF	168,000	468	849	26	1,318	382,220	550,220

Life Science Zurich Graduate School

151,780 (= approx. 1333 x 101.11 CHF plus CHF 17'000 membership fees)

This support covers 1st - 4th year of PhD.

Appendix 2: Graduate School student body 2023

As of 31 December 2023	Total number of students	Affiliated at UZH	Affiliated at ETH	Other affiliation	Track I students	Track II students	Female students	Male students	International students	Swiss students	Program drop-outs	Completed PhD.	Program Alumni
Graduate School total *	1672	1068	565	37	570	1087	993	679	1193	478	130	299	3547
Biomolecular Structure & Mechanism	89	46	41	1	37	52	42	47	67	21	1	12	172
Biomedicine	131	110	21	0	58	73	87	44	90	41	7	21	322
Cancer Biology	146	125	21	0	89	57	98	48	108	38	6	25	361
Clinical Science	72	72	0	0	7	65	52	20	40	32	8	32	32
Drug Discovery **	15	12	3	0			8	7	8	7			17
Ecology	86	51	35	0	4	82	52	34	44	42	0	18	223
Epidemiology & Biostatistics	44	41	3	0	20	24	27	17	28	16	1	17	91
Evolutionary Biology	72	69	3	0	4	68	33	39	53	19	2	16	184
Microbiology & Immunology	264	176	88	0	96	168	160	104	180	84	12	44	499
Molecular Life Sciences	162	85	77	0	108	54	95	67	136	26	2	37	626
Molecular & Translational Biomedicine	9	4	5	0	4	5	6	3	8	1	0	9	87
Neuroscience	292	198	90	4	48	244	175	117	216	76	34	38	22
Plant Science	116	40	58	17 Basel+ 1	7	109	68	48	79	37	49	8	667
RNA Biology	33	5	16	12	23	10	23	10	27	6	0	8	45
Science & Policy	65	16	46	3 Basel	28	37	35	30	50	15	8	4	76
Systems Biology	76	18	58	0	37	39	32	44	59	17	0	10	123

* Data including MTB program which is phasing out.

** Source: DissGo

Appendix 3: Statistics LSZ Graduate School intake rounds

Figures include more data groups than shown in table 5.

Applications worldwide December 2022, July & November 2023 by nationality

Rank	Country	Nov 23	Country	July 2023	Country	Dec 2022
1	India	385	India	257	India	275
2	Pakistan	293	China	114	China	179
3	China	216	Iran	103	Germany	70
4	Iran	84	Pakistan	83	Pakistan	56
5	Germany	63	Italy	69	Iran	52
6	Italy	51	Germany	56	Italy	51
7	Nigeria	50	Switzerland	41	Turkey	41
8	Switzerland	45	Turkey	36	Switzerland	38
9	Turkey	42	Nigeria	33	Nigeria	27
10	Ethiopia	41	Ethiopia	32	Spain	23
11	Greece	39	Ghana	20	UK	22
12	Ghana	29	Sri Lanka	20	France	21
13	Spain	25	Russian Federation	19	Russian Federation	19
14	UK	24	Greece	17	Egypt	18
15	Egypt	20	Bangladesh	14	Ghana	16
16	USA	19	Spain	14	Greece	15
17	Portugal	18	UK	13	USA	14
18	Russian Federation	18	Uganda	12	Poland	13
19	Sri Lanka	18	Egypt	11	Canada	10
20	France	17	USA	11	Brazil	8
21	Bangladesh	15	Taiwan	10	Ethiopia	8
22	Nepal	13	Netherlands	10	Philippines	8
23	Poland	13	France	9	Cyprus	7
24	Taiwan	13	Kenya	8	Netherlands	7
25	Kenya	12	Philippines	8	Romania	7
26	Netherlands	11	Malaysia	7	Sri Lanka	7
27	Philippines	11	Nepal	7	Bangladesh	6
28	Lebanon	10	Romania	7	Hungary	6
29	Republic of Korea	10	Indonesia	7	Kenya	6
30	Cameroon	9	Serbia and Montenegro	6	Lebanon	6
31	Uganda	9	Viet Nam	6	Kazakhstan	5
32	Croatia	8	Portugal	6	Portugal	5
33	Indonesia	7	Brazil	5	Republic of Korea	5
34	Malaysia	7	Lebanon	5	Serbia and Montenegro	5
35	Viet Nam	7	Poland	5	Taiwan	5
36	Austria	6	Austria	5	Zimbabwe	5
37	Belgium	6	Singapore	4	Austria	4

Rank	Country	Nov 23	Country	July 2023	Country	Dec 2022
38	Canada	6	Sudan	4	Indonesia	4
39	Kazakhstan	6	Thailand	4	Mexico	4
40	Romania	6	Cameroon	4	Albania	3
41	United Republic of Tanzania	6	Kazakhstan	4	Bulgaria	3
42	Brazil	5	Republic of Korea	4	Lithuania	3
43	Czech Republic	5	Ireland	4	Singapore	3
44	Hungary	5	Hungary	3	Slovenia	3
45	Kosovo	5	Israel	3	Sudan	3
46	Mexico	5	Jordan	3	Uganda	3
47	Ukraine	5	Kosovo	3	Ukraine	3
48	Morocco	4	Myanmar	3	Belarus	2
49	Slovakia	4	Saudi Arabia	3	Cameroon	2
50	Afghanistan	3	Zambia	3	Gambia	2
51	Bulgaria	3	Canada	3	Iraq	2
52	Colombia	3	Croatia	3	Kosovo	2
53	Cyprus	3	Norway	3	Morocco	2
54	Denmark	3	Afghanistan	2	Namibia	2
55	Finland	3	Albania	2	New Zealand	2
56	Georgia	3	Algeria	2	Peru	2
57	Iraq	3	Bulgaria	2	Syrian Arab Republic	2
58	Israel	3	Chile	2	Tunisia	2
59	Latvia	3	Morocco	2	Viet Nam	2
60	Malawi	3	Rwanda	2	Zambia	2
61	Serbia and Montenegro	3	United Republic of Tanzania	2	Angola	1
62	Slovenia	3	Zimbabwe	2	Australia	1
63	South Africa	3	Azerbaijan	2	Belgium	1
64	Sweden	3	Cuba	2	Belize	1
65	Syrian Arab Republic	3	Slovakia	2	Benin	1
66	Zimbabwe	3	Belarus	1	Colombia	1
67	Albania	2	Benin	1	Croatia	1
68	Argentina	2	Colombia	1	Cuba	1
69	Armenia	2	Costa Rica	1	Czech Republic	1
70	Australia	2	Democratic Republic of the Congo	1	Denmark	1
71	Belarus	2	Denmark	1	Eritrea	1
72	Ireland	2	Ecuador	1	Estonia	1
73	Japan	2	Eritrea	1	Finland	1
74	Jordan	2	Georgia	1	Ireland	1
75	Malta	2	Iceland	1	Jordan	1
76	Somalia	2	Iraq	1	Latvia	1
77	Thailand	2	Kyrgyzstan	1	Luxembourg	1
78	Tunisia	2	Madagascar	1	Malaysia	1
79	Algeria	1	Malawi	1	Mali	1

Rank	Country	Nov 23	Country	July 2023	Country	Dec 2022
80	Belize	1	Mali	1	Mauritius	1
81	Bosnia and Herzegovina	1	Mexico	1	Mongolia	1
82	Chad	1	Namibia	1	Myanmar	1
83	Chile	1	Paraguay	1	Nepal	1
84	Cuba	1	Republic of Moldova	1	Norway	1
85	Guatemala	1	South Africa	1	Oman	1
86	Kyrgyzstan	1	Syrian Arab Republic	1	Rwanda	1
87	Lao People's Democratic Republic	1	Tunisia	1	Sweden	1
88	Libyan Arab Jamahiriya	1	Ukraine	1	Thailand	1
89	Luxembourg	1	United Arab Emirates	1	The former Yugoslav Republic of Macedonia	1
90	Mongolia	1			Togo	1
91	Norway	1			Trinidad and Tobago	1
92	Peru	1				
93	Rwanda	1				
94	Singapore	1				
95	Uzbekistan	1				
96	Venezuela	1				
Total		1819		1192		1159

Applications from Europe December 2022, July & November 2023

Rank	Country	Nov 23	Country	July 2023	Country	01. Dez
1	Germany	63	Italy	69	Germany	70
2	Italy	51	Germany	56	Italy	51
3	Switzerland	45	Switzerland	41	Switzerland	38
4	Greece	39	Greece	17	Spain	23
5	Spain	25	Spain	14	UK	22
6	UK	24	UK	13	France	21
7	Portugal	18	Netherlands	10	Greece	15
8	France	17	France	9	Poland	13
9	Poland	13	Romania	7	Netherlands	7
10	Netherlands	11	Portugal	6	Romania	7
11	Croatia	8	Serbia and Montenegro	6	Cyprus	7
12	Austria	6	Austria	5	Hungary	6
13	Belgium	6	Poland	5	Portugal	5
14	Romania	6	Ireland	4	Serbia and Montenegro	5
15	Czech Republic	5	Hungary	3	Austria	4
16	Hungary	5	Kosovo	3	Ukraine	3
17	Kosovo	5	Norway	3	Bulgaria	3
18	Ukraine	5	Albania	2	Slovenia	3
19	Slovakia	4	Bulgaria	2	Albania	3
20	Bulgaria	3	Croatia	2	Kosovo	2
21	Cyprus	3	Slovakia	2	Croatia	1
22	Denmark	3	Denmark	1	Belgium	1
23	Finland	3	Ukraine	1	Czech Republic	1
24	Latvia	3	Belgium	0	Denmark	1
25	Serbia and Montenegro	3	Bosnia and Herzegovina	0	Finland	1
26	Slovenia	3	Cyprus	0	Latvia	1
27	Sweden	3	Czech Republic	0	Sweden	1
28	Albania	2	Estonia	0	Ireland	1
29	Ireland	2	Finland	0	Luxembourg	1
30	Malta	2	Latvia	0	Norway	1
31	Bosnia and Herzegovina	1	Lithuania	0	Slovakia	0
32	Luxembourg	1	Luxembourg	0	Malta	0
33	Norway	1	Malta	0	Bosnia and Herzegovina	0
34	Estonia	0	Slovenia	0	Estonia	0
35	Lithuania	0	Sweden	0	Lithuania	0
Total		389		281		318

Appendix 4: PhD Programs Annual Reports

Biomedicine

The program in figures and numbers

Program statistics	as of December 31 (imMed + BioMed)
Program students	3+128=131
UZH	3+107=110
ETH	0+21=21
Other affiliation	0*
Track I students	58
Track II students	73
Female students	87
Male students	44
International students	90
Swiss students	41
Program drop-outs	0+7=7
Completed PhD	9+12=21
Program alumni	309+13=322
Faculty members	98

*1 doctoral student is enrolled at the UZH but is doing her PhD at CUTISS AG

Recruitment

Recruiting statistics	December 1	July 1	Nov 1
Complete applications	81	97	120
Invited candidates	17	22	20
Drop-outs before interview	2	3	1
Free slots (BioMed priority program)	12	9	14
Matches	4	8	7
Candidates without matches	5	7	7
Decision against program	3	4	3
Rejected candidates	1	1	2
Change to other LSZGS programs	4	3	3
Gained from LSZGS programs	2	4	3

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ*		
UZH*	50'250	
Fees	30'000	
Other	1'200	
Expenses		
Salaries program		54'984
Social benefits		900
Recruitment December 1		6'407
Recruitment July 1		972
Program activities (retreat, events, travel grants, external speakers)		17'817
Overhead		
Total	81'450	81'080
Balance as of December 31	370	

*Without POST SUK money MNF and ETH support (Projektförderung/Matching UZH Finanzierung 2023/2024)

Program Activities 2023

Graduate Courses offered by BioMed

- June 8+9, 2023: Mouse physiology and pathophysiology
- June 12+13, 2023: Masterclass in Scientific Writing and Publishing in High-Impact Journals
- September 4+5, 2023 Introduction to human physiology: Sensory systems: How we hear and see
- September 11+12, 2023: Molecular Biology Methods
- September 14+15, 2023: Introduction to human physiology: Regulation of cardiovascular function
- October 30 to December 4, 2023 (6 days): Bioinformatics and Next Generation Sequencing 2023

Retreat 2023

June 19, 2023: 3rd BioMed Mini-Retreat in Landenberghaus "Greifensee" (1 day)

Program:

Presentations, Session I: Immunology & Cancer,

Presentations, Session II: Metabolism,

Presentations, Session III: Tissue engineering, Genetic diseases & Cardiology

Panel discussion on Artificial Intelligence,

Panel participants: - Prof. Dr. Michael Krauthammer
 - Dr. Agata Ferretti
 - Dr. Anna Susmelj

Prizes for best presentations and posters

BioMed Event 2023

November 13, 2023: Autumn event together with the MIM PhD program, Bella Vista ETHZ

Program:

Presentations of single slides of a collection of different scientific methods followed by an aperitif, awards for the best slides, social networking also between the programs BioMed and MIM. The event is a continuation of a similar event in 2021 but extended to the MIM PhD program.

Seminar series “From vision 2020 to Future Perspectives”

The organization committee led by Dominika Brchnelova organized the following Vision 2020 event in 2023:

January 16, 2023: Host-microbiome interaction in health and disease, Guest speaker: Professor Eran Elinav from the Weizmann Institute of Science, Israel. The talk was followed by an aperitif. Around 30 people took part.

The Vision 2020 events are supported by POST – SUK money from the MNF/UZH.

New PI members of BioMed

4 new BioMed PIs were accepted by the BioMed commission during 2023.
As of end of 2023, after considering all resignations 98 PIs were members of BioMed.

BioMed Travel grants 2023

In 2023, the BioMed Travel Grant could support nine PhD students to participate in a conference or congress (max. 1000 CHF). All reports are published on the BioMed webpage.

The grants have been financed solely by the program.

Outlook 2024

Graduate Courses offered by BioMed

In 2024 BioMed will again offer various courses:

- February 5-9, 2024: Biomedical Research & Development (former Genomic medicine)
- June 6 + 7, 2024: Mouse physiology and pathophysiology
- June 17 + 18, 2024: Scientific Writing and Oral Communication
- August 27 + 30, 2024: Introduction to human physiology: Membrane transport, signal transduction

- September 2 + 3, 2024: Molecular Biology Methods
- September 19+20, 2024: Introduction to human physiology: Regulation of cardiovascular function
- November to December, 2024 (6 days): Bioinformatics and Next Generation Sequencing 2024

BioMed Retreat 2024

May 24, 2024: 4th BioMed Mini-Retreat in Landenberghaus “Greifensee” (1 day)

BioMed Events 2024

July 5, 2024: Summer event together with the MIM PhD

Seminar series “From vision 2020 to Future Perspectives”

April 4, 2024: Topic: Therapies of Tomorrow: Dietary Fibers and Immunity, guest speaker: Professor Dr. Paul de Vos, University Medical Center Groningen, The Netherland

Decision: The event series "From Vision 2020 to Future Perspectives" will no longer be offered after this event. It wasn't easy to find interesting speakers and the financial situation is still uncertain as of 2025. A resumption of the event series (or similar events) is not excluded.

BioMed Travel grants 2024

A maximum of 10 travel grants can be awarded as in the past. Reducing grant sum to 500.- for conferences within Europe. For conferences outside Europe the travel grant sum remains at 1000.-

The grants have to be financed solely by the program. The BioMed commission decides about future travel grants yearly.

Financial situation

Financial situation of the Program is secure until end of 2025.

The program additionally has a financial cushion from the past.

In the upcoming years, this money will be spent. BioMed will adapt its course offer, events and activities according to the future financial possibilities.

Biomolecular Structure and Mechanism

The program in figures and numbers

Program statistics	as of December 31
Program students	89
UZH	46
ETH	41
Other affiliation	1
Track I students	37
Track II students	52
Female students	42
Male students	47
International students	67
Swiss students	21
Program drop-outs	8 (all time), 1 in 2023
Completed PhD	172 (all time) 12 in 2023
Program alumni	172
Faculty members	302

Recruitment

Recruiting statistics	December 1	July 1	July 1 Nov.23
Complete applications	24	34	54
Invited candidates	14	9	13
Drop-outs before interview	0	1	0
Free slots (XX priority program)	13	13	14
Matches	7	5	6
Candidates without matches	2	4	0
Decision against program	2	0	1
Rejected candidates	1	0	1
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	0

Finances in CHF

	Income	Expenses
Balance as of January 1	36'330.00	
Income		
ETHZ	0	
UZH	36'330.00	
Fees	0	
Other	0	
Expenses		
Salaries program		37'107.70
Social benefits		5'756.75
Recruitment December 1		4'974.20
Recruitment July 1		2'982.00
Program activities (retreat, symposia, etc.)		14'955.28
Overhead		0
Total		65'775.93
Balance as of December 31	-29'445.93 (paid by PSP- Element of Prof. Jinek)	

Program Activities:

Retreat 2023 in Morschach, Mattli Hotel, 28.08-30.08.2023

Annual Meeting of the BSM Program members on 11.05.2023

Structural Biology Course: 06.02-07.02.2023

Current Topics in structural Biology Course: 21.06.2023

Scientific Writing Course: 24.11, 27.11, 28.11.2023

Outlook: Information meeting with Apero for Track I of the BSM program Candidates during recruitment rounds, 2 times per year.

Cancer Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	146
UZH	125
ETH	21
Other affiliation	0
Track I students	89
Track II students	57
Female students	98
Male students	48
International students	108
Swiss students	38
Program drop-outs	6
Completed PhD	18
Program alumni	361
Faculty members	76

Recruitment

Recruiting statistics	December 1	July 1	November 1
Complete applications	211	281	301
Invited candidates	14	15	12
Drop-outs before interview	2	7	0
Free slots (XX priority program)	10	11	9
Matches	8	8	5
Candidates without matches	3	9	4
Decision against program	1	0	1
Rejected candidates	0	0	0
Change to other LSZGS programs	0	2	1
Gained from LSZGS programs	3	4	2

Finances in CHF

	Income	Expenses
Balance as of January 1	16'217.46	
Income		
ETHZ	14'000.00	
UZH	39'440.00	
Fees	27'000.00	
Other	18'000.00	
CCCZ	89'580.45	
Expenses		
Salaries program		73'445.40
Social benefits		16'135.05
Recruitment December 1		4'086.20
Recruitment July 1		2'078.80
Program activities (retreat, symposia, etc.)		66'274.51
Overhead		
Total		162'019.96
Balance as of December 31	42'217.95	

Program Overview

Director:

Prof. Maries van den Broek (UZH)

Steering Committee:

Prof. Beat Schäfer, Oncology Department, Kispi - resigned due to retirement

Prof. Ana Guerreiro Stücklin, Oncology Department, Kispi – new elected member (Aug 23)

Prof. Anne Müller, Institute of Molecular Cancer Research, UZH

Prof. César Nombela Arrieta, Department of Oncology and Hematology, USZ

Prof. Roger Schibli, PSI and Department of Pharmaceutical Sciences, ETHZ

Student representatives:

Nina Desboeufs, Institute of Molecular Cancer Research, UZH

Harini Lakshminarayana, Institute of Pathology and Molecular Pathology, USZ

Laura Leuenberger, Department of Medical Oncology and Hematology, USZ

Program coordinator:

Bettina Rausch-Malina, c/o Institute of Molecular Cancer Research, UZH

Program Activities

Review/Admission Committee:

Dec 22/Feb 23:

Prof. Onur Boyman, Department of Immunology, USZ

Prof. Maries van den Broek, Institute of Experimental Immunology, UZH

Prof. Massimo Lopes, Institute of Molecular Cancer Research, UZH

Prof. Enni Markkanen, Institute of Veterinary Pharmacology and Toxicology, UZH

Prof. Javad Nazarian, Oncology, University Children's Hospital Zurich

Prof. Lorenza Penengo, Institute of Molecular Cancer Research, UZH

Prof. Roger Schibli, Institute of Pharmaceutical Sciences and PSI, ETH Zurich
Prof. Manuel Stucki, Department of Gynaecology, USZ

July 23/Sep 23:

Prof. Martin Baumgartner, Oncology, University Children's Hospital Zurich
Prof. Massimo Lopes, Institute of Molecular Cancer Research, UZH
Prof. Chiara Magnani, Department of Medical Oncology and Hematology, USZ
Prof. Enni Markkanen, Institute of Veterinary Pharmacology and Toxicology, UZH
Prof. Javad Nazarian, Oncology, University Children's Hospital Zurich
Prof. Chantal Pauli, Department of Pathology and Molecular Pathology, USZ
Prof. Manuel Stucki, Department of Gynaecology, USZ
Prof. Didier Surdez, Bone Sarcoma Research Laboratory, Balgrist University Hospital
Prof. Thorsten Zenz, Department of Medical Oncology and Hematology, USZ

Nov 23/Jan 24:

Prof. Steffen Böttcher, Department of Medical Oncology and Hematology, USZ
Prof. Massimo Lopes, Institute of Molecular Cancer Research, UZH
Prof. Enni Markkanen, Institute of Veterinary Pharmacology and Toxicology, UZH
Prof. Manuel Stucki, Department of Gynaecology, USZ
Dr. Tobias Weiss, Department of Neurology, USZ

The **mandatory module courses** of the program took place as follows:

Module E – Translational cancer biology

Encoded library technology and generation/testing of prototypes / Dario Neri / 30.01.2023
Cancer immunotherapy / Christian Klein / 31.01.2023
Small molecule anticancer therapeutics / Karsten Meissner / 01.02.2023
Gene and Cell-Based Therapies / Christian Pellegrino, Tobias Weiss / 02.02.2023
Regulatory aspects and entrepreneurial activities / Dario Neri / 03.02.2023

Module B – Tumors and the immune system

Introduction to the immune system / Maries van den Broek, Christian Stockmann /
27.03.2023
Hematologic malignancies / Nastassja Scheidegger, Nicole Bodmer, Susanne Kubetzko,
Stefan Balabanov, Beat Bornhauser, Thorsten Zenz, / 28.03.2023
Tumor immunology (basics and therapy) / Milo Räber, Egle Ramelyte, Patrick Roth /
29.03.2023
High dimensional spatial profiling of tumour microenvironment / Karina Silina, Nils Eling /
30.03.2023
Infection, immunity and cancers/ Christian Münz, Chiara Magnani, Roberto Speck /
31.03.2023

Module C – Mechanisms of cancer induction and progression

Genome instability / Andreas Panagopoulos, Antonio Porro, Manuel Stucki / 19.06.2023
Oncogenes and tumor suppressor genes / Beat Bornhauser, Martin Baumgartner, Didier
Surdez, Javad Nazarian, Marco Wachtel, Ana Guerreiro Stücklin / 20.06.2023
Metastasis / Lubor Borsig, Maries van den Broek / 21.06.2023
Cell signalling molecules as therapeutic targets / Philipp Berger, Martin Grossmann, Martin
Bébé / 22.06.2023
Circulating tumor cells and metastasis / Nicola Aceto / 23.06.2023

Module D – Cancer treatments

Personalized chemotherapy / Ralph Fritsch / 25.09.2023
Cancer surgery / Anurag Gupta et al. / 26.09.2023

Cancer radiotherapy / Martin Pruschy et al. / 27.09.2023

Tumor pathology / Hella Bolck, et al. / 28.09.2023

Precision Oncology: targeted and immuno-therapy in cancer patients/ Andreas Wicki et al. / 29.09.2023

Module A – **Cancer biology**

Modes of cell death / Christian Münz, Martin Pruschy, Lynn Wong / 30.10.2023

Colon cancer: inflammation and epigenetics / Marianne Spalinger, Gerhard Rogler, Stephan Vavricka / 31.10.2023

Functional genomics / FGCZ Ralph Schlapbach / 01.11.2023

Cell biology / Jana Krietsch, Jan Krützfeld, Roland Wenger / 02.11.2023

Model systems for cancer research / Martin Baumgartner, Mitch Levesques, Anne Müller / 03.11.2023

Scientific Writing Course

Proposal and Grant Writing, Pavel Janscak, 24.02. + 14.07.2023

Paper Writing, Isabelle Arnold, 07.03. + 29.08.2023

Science Ethics Courses – online

Dr. Jacky Leach Scully, Professor of Bioethics and Director, Disability Innovation Institute, UNSW, Australia, 26.-28.06.2023

Dr. Verena Lütuschg, About Tomorrow Consulting, 21.-23.11.2023

Additional courses:

Introduction to R

9 places 14.-15.09.2023

10th Retreat of the Cancer Biology PhD Program

The 10th Cancer Biology Retreat took place from June 05-07, 2023, at the Hotel Seeblick in Emmetten/NW. 64 PhD students took part, 51 of whom presented a poster, 15 students also presented their project with a talk. 23 research group leaders also attended the retreat, gave keynote lectures and were involved in the evaluation of the posters.

The following people presented as research experts and keynote speakers:

Prof. Johannes Zuber, Research Institute of Molecular Pathology, Vienna Biocenter

Prof. Michael Scharl, Department of Gastroenterology and Hepatology, USZ

Prof. Lukas Sommer, Institute of Anatomy, UZH

Prof. Lorenza Penengo, Institute of Molecular Cancer Research, UZH

Prof. César Nombela Arrieta, Department of Medical Oncology and Hematology, USZ

Poster prizes were awarded to the following doctoral students:

Mara Hofstetter, Department of Medical Oncology and Hematology, USZ

Giulia Moro, Department of Molecular Life Sciences, UZH

Ramona Moro, Institute of Molecular Cancer Research, UZH

Veronica Cherdyntseva, Institute of Molecular Cancer Research, UZH

Simon Lampart, Department of Medical Oncology and Hematology, USZ

We also had the opportunity to present the winners of the "Ida de Pottère-Leupold and Dr. iur. Erik de Pottère cancer research awards" with their prizes. The two postdocs Dr. Francisco Caiado, Department of Medical Oncology and Hematology/USZ and Dr. Annalisa Saltaro, Department of Dermatology/USZ, who also actively participated in the retreat, were awarded the prize.

The event was organised with support of the following PhD students:

Nancy Klemm, Department of Medical Oncology and Hematology, USZ
Ieva Norvaisaite, Institute of Molecular Health Sciences, ETH
Cara Sickinger, Institute of Molecular Health Sciences, ETH

Travel Grants: travel expenses for congresses, meetings, symposia, workshops, and courses.
Deadlines for applications: 15.1. and 1.5. and 1.9.2023

Following students have received a travel grant:

Cervantes Gracia Karla, ENII Summer school 2023, 12.05.-19.05.2023, Alghero Sardinia
Bosakova Andrea, Balancing Genome Fidelity and Plasticity Conference, 4.-7.5.2023, Mexico
Capogiri Monica, Pediatric Neuro-Oncology Res. Conf., 22.-24.06.2023, Washington, USA
Ruiba Alessia, AACR Annual Meeting 2023, 14.04.-19.04.2023 - Orlando, USA
Thoma Marina, 4th EVBO SUMMER SCHOOL, 05.07.-07.07.2023; Badalona, Spain
Hartmann Patricia, 15th Int. Adenovirus Meeting, 24.-28.09.2023, Brač Island, Croatia
Fazio Serena, ISEH 2023, Int. Society for Exp. Hematology, 17.-20.08.2023, New York, USA
Vijaykumar Anjali, ISEH 2023, Int. Society for Exp. Hematology, 17.-20.08.2023, NY, USA
Sun Miaomiao, SNO Annual Meeting, 15.11.-19.11.2023, Vancouver, CA
Mastall Maximilian, SNO Annual Meeting, 15.11.-19.11.2023, Vancouver, CA
Abdel Moneim Yasmin, EANO Congress, 21.09.-24.09.2023, Rotterdam, NL

Social Activities

- * Get-together with PhD students and candidates of interview rounds over Pizza & Drinks at Cucina Bernoulli, 08.02.2023 / 21.09.2023
- * BBQ at Medizinerhof, Irchel Campus on 19.07.2023
- * X-Mas Event on 05.12.2023: ice skating and winter market at the Dolder sports

Outlook 2024

Courses:

Module E – **Translational Cancer Biology** – 05.02.-09.02.2024
Module B – **Tumors and the immune system** – 05.04.-11.04.2024
Module C – **Mechanisms of cancer induction and progression** – 17.06.-21.06.2024
Module D – **Cancer treatments** – 23.09.-27.09.2024
Module A – **Cancer biology** – 28.10.-01.11.2024

Scientific Writing Course – March and July 2024

Science Ethics Course – May and November 2024

11th Cancer Biology PhD Students Retreat

Morschach, Mattli Antoniushaus

Travel Reimbursement Grants: travel expenses for congresses, meetings, workshops, and courses. Deadlines: 15.1. and 1.5. and 1.9.2024

Social Activities:

Get together in January (17.01.2024) and July
Summer BBQ in August
X-Mas event in December

Clinical Science

The program in figures and numbers

Program statistics	as of December 31
Program students	72
UZH	
ETH	
Other affiliation	
Track I students	7
Track II students	65
Female students	52
Male students	20
International students	40
Swiss students	32
Program drop-outs	8
Completed PhD	32
Program alumni	32
Faculty members	34

Recruitment

Recruiting statistics	December 1, 2022	July 1, 2023	November 1, 2023
Complete applications (<i>Track II, Track I</i>)	6 8*	8 35	10 5
Invited candidates	6 0	8 4	10 0
Drop-outs before interview	0	0	0
Free slots (XX priority program)	6 0	8 1	10 0
Matches	6 0	8 1	10 0
Candidates without matches	0 0	0 2	0 0
Decision against program	0	0 1	0
Rejected candidates	1 7	0 33	3 5
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	0

*One applicant was postponed to the next application session after consultation, as no PhD position was available.

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ		
UZH	71'628 (real and virtual money)	
Fees		
Other	50'000	
Expenses		
Salaries program		99'860
Social benefits		
Recruitment December 1		
Recruitment July 1		
Program activities (retreat, symposia, etc.)		21'768
Overhead		0
Total	121'628	121'628
Balance as of December 31	0	

Program Activities

Retreat on September 22, 2023

Annual Members Meeting on October 27, 2023

Outlook

Retreat on September 13, 2024

Annual Members Meeting on November 6, 2024

Drug Discovery

The program in figures and numbers

Program statistics	as of December 31
Program students	14
UZH	12
ETH	02
Other affiliation	01 (UZH + ZHAW)
Track I students	2
Track II students	12
Female students	8
Male students	6
International students	6
Swiss students	8
Program drop-outs	0
Completed PhD	7
Program alumni	7
Faculty members	13

Recruitment

Recruiting statistics	December 1 2022	July 1 2023
Complete applications	84	73
Invited candidates	0	2
Drop-outs before interview		1
Free slots (XX priority program)		
Matches		1
Candidates without matches		
Decision against program		
Rejected candidates		
Change to other LSZGS programs		
Gained from LSZGS programs		

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ		
UZH		
Fees		
Other		
Expenses		
Salaries program		
Social benefits		
Recruitment December 1		
Recruitment July 1		
Program activities (retreat, symposia, etc.)	6352.7 (2022)	
Overhead		
Total		
Balance as of December 31	29'394.65	

Program Activities**Outlook**

Retreat September 2024

Ecology

The program in figures and numbers

Program statistics	as of December 31
Program students	
UZH	51
ETH	35
Other affiliation	0
Track I students	4
Track II students	82
Female students	52
Male students	34
International students	44
Swiss students	42
Program drop-outs	0
Completed PhD	18
Program alumni	223
Faculty members	70

Recruitment

Recruiting statistics	December 22	July 23	November 23
Complete applications	33	87	76
Invited candidates	2	0	0
Drop-outs before interview	0	0	0
Free slots (XX priority program)	0	0	0
Matches	0	0	0
Candidates without matches	1	12	13
Decision against program	0	0	0
Rejected candidates	1	75	63
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	0

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ (post-Suk)	8000.00	
UZH	32850.00	
Fees	8650.00	
Other, Post SUK funding UZH	12000.00	
Expenses		
Salaries program		
UZH		37122.00
Post SUK		5303.00
Social benefits		
UZH		8733.00
Post SUK		1480.00
Recruitment December 1		0
Recruitment July 1		0
Program activities (retreat, symposia, etc.)		26385.00
Overhead		284.00
Total	69550.00	70575.00
Balance as of December 31		-1025.00

Program Activities

Student meet-up activities continued in 2023. We organised a student lunch meet-up in March and September. We continued with the biannual newsletter which is sent to students and principal investigators with a 'Featured PhD project' which is added to the first page of our [website](#) each semester.

The PhD Program in Ecology welcomed 10 new students and two new affiliated research groups in 2023.

Teaching

In 2023 the PhD Program in Ecology organized the following courses:

Subject-specific matters –

ECO 400 Addressing Global Change and Biodiversity from an Interdisciplinary Perspective

Summer School,

ECO 363 Ecological Theories 4,

ECO 364 Ecological Theories 5,

ECO 397 Cutting Edge Research Club,

Methods –

ECO 331 General linear and linear mixed models in R,

ECO 353 Introduction to Structural Equation Modelling (SEM).

Transferable Skills –

ECO 303 Teaching Science at University,

ECO 311 Writing a Scientific Manuscript,

ECO 306 Scientific writing with Stephen Heard.

Students were reserved places on the following courses:

UWW 250 Spatial Ecology and Remote Sensing,

UWW 271 Contemporary analysis for ecology,

Introduction to Machine Learning for Plant Scientists Block 1 (PSC),
Introduction to Machine Learning for Plant Scientists Block 2 (PSC).

Outreach

The Program Manager, as co-chair of the Scientific Committee, promoted the PhD program at the International Congress for Conservation Biology 2023. The PhD Program in Ecology manager participated in the University of Barcelona & League of European Research Universities (LERU) workshop on doctoral supervision with the financial support of UZH Graduate Campus.

Outlook

The biannual PhD student lunch meet-up will continue in 2024.

The PhD Program in Ecology will offer the following courses in 2024:

Ecological Theories 6,

Ecological Theories 7,

Cutting Edge Research Club,

Building blocks of Scientific Writing,

Introduction to Structural Equation Modeling,

General Linear and Linear Mixed Models in R,

Teaching Science at University,

Scientific writing for ecologists.

Some of the courses we offer our students are organized through collaborators:

EEE 334 Spatial Ecology and Remote Sensing,

EEE 352 Contemporary analysis for ecology,

BIO 402 Philosophy of Science with a Focus on Biology,

Compositional data analysis (PSC),

Introduction to Machine Learning for Plant Scientists - Module 1 & 2 (PSC),

Statistical modelling (PSC).

Epidemiology and Biostatistics

The program in figures and numbers

Program statistics	as of December 31
Program students	44
UZH	41
ETH	3
Other affiliation	0
Track I students	20
Track II students	24
Female students	27
Male students	17
International students	28
Swiss students	16
Program drop-outs	1
Completed PhD in 2023	17
Program Alumni	91
Faculty members	10

Recruitment

Recruiting statistics	December 1, 2022	July 1, 2023	November 1, 2023
Complete applications	54	82	92
Invited candidates	7	12	8
Drop-outs before interview	2	1	1
Free slots (first priority)	1	4	2
Matches	1	1	3
Candidates without matches	3	8	3
Decision against program	0	1	0
Rejected candidates	1	1	1
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	1

Finances

	Income	Expenses
Balance January 1	6'132	
Income		
LSZGS (UZH)	27'630	
Post SUK	3'000	
Other	11'239	
Expenses		
Salaries program		15'000*
Recruitment December 1		0
Recruitment July 1		1'479
Program activities (retreat, career development program, etc.)		25'522
Total	48'001	42'001
Balance as of December 31	6'000	

*The remaining salary of the coordinator has been covered with other means.

Program Activities

The program organized a retreat, academic career development and social events in close collaboration with students, represented by the student representatives. Furthermore, the program supported events initiated by students.

The following major events took place:

- EBPhD retreat in Filzbach.
- Scientific writing training with Jürgen Barth.
- EBPhD social events.
- Coffee Connect with former EBPhDs.
- Mental strength and motivation with Gayanée Kedia.
- SNSF mobility applicant's meeting with Kelly Turner.
- PostDoc mentoring picnic.
- Methods seminar (STA880DP) in spring and fall semester 2023.
- Introduction to Epidemiology (EPI 301) block course in fall semester 2023.
- EBPhD research talks.
- EBPhD kick-off afternoon.

In addition, we regularly informed our PhDs about lectures and events, the Graduate Campus and LSZGS offerings.

Outlook

The following events have been planned for 2024:

- How to peer-review seminar.
- Workshop Crafting4Health.
- Rock your talk – Presentation training.
- FUND-O-POLY: Player tips!
- SNSF mobility applicant's meeting.
- Peer-mentoring lunch.
- Methods seminar (STA880DP) in spring and fall semester 2024.
- Introduction to Epidemiology (EPI301) block course in fall semester 2024.
- EBPhD mini-symposium

Evolutionary Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	72
UZH	69
ETH	3
Other affiliation	0
Track I students	4
Track II students	68
Female students	33
Male students	39
International students	53
Swiss students	19
Program drop-outs	2
Completed PhD	16
Program Alumni	184
Faculty members	33

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	13	14
Invited candidates	2	1
Drop-outs before interview	0	1
Free slots (EvoBio priority program)	1	0
Matches	1	0
Candidates without matches	1	0
Decision against program	0	0
Rejected candidates	0	0
Change to other LSZGS programs	0	0
Gained from LSZGS programs	0	0

Finances

	Income	Expenses
Balance as of January 1		0.00
Income		
ETHZ and ETH	32'270.00	
Member Fees	15'000.00	
URPP Evolution in Action	1'950.30	
Total income	49'220.30	
Expenses		
Salaries program		35'000.00
Annual Retreat		13'601.30
Catering for EvoBio Events		221.10
Contribution Teaching in Science Course		600.00
Total expenses		49'422.44
Balance as of December 31		-202.10

Program Activities 2023

- Annual Retreat in Möschberg, BE (June 5-7)
- Teaching Science at University (together with Ecology PhD Program)
- BIO395 Concepts in Evolutionary Biology (held by PIs of the URPP Evolution in Action)
- BIO554 Survey Course: Topics in Evolutionary Biology
- BIO609 Introduction to UNIX/Linux and Bash Scripting (in cooperation with URPP Evolution in Action)
- BIO610 Next-Generation Sequencing for Model and Non-Model Species (in cooperation with URPP Evolution in Action)
- BIO634 Next-Generation Sequencing 2 - Continuation Course: Transcriptomes, Variant Calling and Biological Interpretation (in cooperation with URPP Evolution in Action)
- BIO692 Introduction to Genome-Wide Association Studies (in cooperation with URPP Evolution in Action)

Outlook 2024

- Annual Retreat in Wergenstein GR, June 10-12
- EvoBio Visit to the Animal Behaviour Group, IEU, February 1
- Teaching Science at University (together with Ecology PhD Program)
- ECO345 Online Landscape Genetics (together with Ecology PhD Program)
- BIO395 Concepts in Evolutionary Biology (held by PIs of the URPP Evolution in Action)
- BIO555 Scientific Writing and a Research (in cooperation with URPP Evolution in Action)
- BIO609 Introduction to UNIX/Linux and Bash Scripting (in cooperation with URPP Evolution in Action)
- BIO610 Next-Generation Sequencing for Model and Non-Model Species (in cooperation with URPP Evolution in Action)
- BIO634 Next-Generation Sequencing 2 - Continuation Course: Transcriptomes, Variant Calling and Biological Interpretation (in cooperation with URPP Evolution in Action)
- BIO624 Human Genetic, Demographic and Cultural Diversity (in cooperation with URPP Evolution in Action)
- BIO692 Introduction to Genome-Wide Association Studies (in cooperation with URPP Evolution in Action)

Microbiology and Immunology

The program in figures and numbers

Program statistics	as of December 31
Program students	264
UZH	176
ETH	88
Other affiliation	0
Track I students	96
Track II students	168
Female students	160
Male students	104
International students	180
Swiss students	84
Program drop-outs	12
Completed PhD	44
Program alumni	499
Faculty members	108

Recruitment

Recruiting statistics	December 1, 2022	July 1, 2023	Nov 1, 2023
Complete applications	201	216	306
Invited candidates	20	23	17
Drop-outs before interview	4	6	1
Free slots (MIM priority program)	12	14	9
Matches	4	5	4
Candidates without matches	3	5	3
Decision against program	5	1	4
Rejected candidates	2	2	2
Change to other LSZGS programs	2	4	3
Gained from LSZGS programs	1	3	0

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ / UZH	83'890	
Post SUK Funding UZH / MNF	26'195	
Fees	58'000	
Other	3'580	
Expenses		
Salaries program (including social benefits)		107'835
Recruitment December 1 & July 1		12'450
Program activities (retreat, symposia, etc.)		40'780
Overhead		430
Total	171'665	161'495
Balance as of December 31	10'170	

Organization of the Program

The MIM Program is headed by two directors, Prof. Jörn Piel from ETHZ and Prof. Rolf Kümmerli from UZH, who co-chair the Program. The steering committee consists of the two directors and two additional members of the MIM Program, Prof. Salomé LeibundGut (UZH) and Dr. Roman Spörri (ETH). The General Assembly, including all PIs of the Program, meets on an annual basis and decides on the admission of new members and changes of the regulations.

The duties of the admission committee members are to evaluate the applications, to lead the interviews and to decide on the admission to the MIM Program. Admission committee members are

- Prof. Silvio Brugger (UZH)
- Prof. Cornel Fraefel (UZH)
- Prof. Urs Greber (UZH)
- Prof. Nicole Joller (UZH)
- Dr. Mark Mellet (UZH)
- Dr. Silvia Monticelli (IRB) till October 2023
- Prof. Christian Münz (UZH)
- Dr. Gabriella Pessi (UZH)
- Prof. Natalia Pikor (ETH) from November 2023 on
- Prof. Emma Slack (ETH)
- Prof. Silke Stertz (UZH)

Two MIM PhD students Corina Hadjicharalambous (ETH) and Juan Zilic (UZH) represent the students' interest towards the MIM PhD Program by participating in the Steering Committee, the General Assembly and the LSZGS Directors Conference.

The coordinator of the MIM Program is Judith Zingg.

Program Activities

Program-specific courses for doctoral students

17th Microbiology and Immunology Introductory Course (BME 645)

January 11-13, 2023 / ETH Hnggerberg

In this yearly-offered three-day workshop, MIM PIs introduce their fields of expertise, their basic research questions, and the methodologies applied to answer them. Students of the MIM PhD program present their own research projects. Participants become acquainted with the research performed at the different microbiological and immunological laboratories of the MIM consortium, facilitating contact with those labs whose expertise could contribute to their own research work. The scientific program of the 17th MIM Introductory Course included 13 oral presentations of PIs and 39 of PhD students, covering the fields of general and medicinal Microbiology, Virology and Immunology, additionally Dr. Claudia Dumrese (Cytometry Facility), Dr. Ralph Schlapbach (FGCZ), Dr. Franziska Singer (Nexus) and Dr. Urs Ziegler (ZMB) gave an insight talk about the methods and services of the facilities. Prof. Emma Slack and Prof. Christoph Schneider held an interactive workshop on Scientific Integrity. The MIM student representatives have presented themselves and their role in a short talk and the co-directors Prof. Jrn Piel and Prof. Rolf Kmmerli gave a welcome and farewell speech, respectively. The MIM Alumnus Dr. Michael Rust talked about his PhD experience. For the first time, a poster session was organized. 28 poster presenters gave short poster flash talks before the poster session. Responsible for the organization of the course were Dr. Anna Vagstad and Judith Zingg.

16th MIM Student Retreat (BME 644)

August 17-19, 2023 / Davos

The 16th MIM Student Retreat took place in Davos (Youth hostel). Science talks were given by MIM PhD students and the guest speaker Reza Naghavian (MIM Alumnus, Cellerys AG). Christian Mnz (member of the Executive Committee from EJI) highlighted what editors are looking for in a manuscript and explained the peer review process. An "Award winning talk" workshop by Francis Muchaamba was held, and the two MIM Alumni Riccardo Montecchi & Ioannis Kritikos talked about "Early Talent Program in Product Development Regulatory" at Roche. Promega, a co-sponsor of the event, was introduced by Anna Lazzaro & Alessandro Franchini.

The MIM Student Retreat is an opportunity to exchange ideas, get to know colleagues of the MIM PhD Program, and establish contacts with guest speakers. It offered the students a chance to increase their presentation skills in a friendly atmosphere and to discuss research projects with fellow PhD students. Responsible for the organization of the retreat were the following MIM PhD students: Zoe Marti (group of Roland Martin), Marco Burkolter and Sven Krhenbhl from Martin Loessner's group, Hazal Tatliadim (group of Cornelia Halin), Sudharshana Sundaresan (group of Michael Hottiger), Victor Kreiner (group of Burkhard Becher) and Ignacio Perez (group of Isabelle Arnold).

The MIM Student Retreat and the MIM Introductory Course were possible thanks to the financial support of Post-SUK funding UZH, and the MIM Retreat was additionally co-sponsored by Biogen, Bucher Biotec, Microsynth, Promega, RedBull, and tibits.

Mindfulness & Meditation: A beginner's guide

September 12 & 19, 2023 / Dr. Annika Martin

General Principles of Scientific Writing Course

September 13 & 14, 2023 / Prof. Shinichi Sunagawa

Research Data Management and related topics

Fall 2023

In collaboration with Scientific IT Services, ETH Library conducted a series of consecutive workshops, which focused on the various elements of research data management along the research data life cycle.

Translational Medicine: Infection & Immunity (BIO 684)

Fall Semester 2023 / Prof. Karin Metzner and other MIM PIs

Basic Scientific Presentation Skills Course

December 4&5, 2023 / Prof. Emmanuella Guenova, Prof. Nicole Borel, Dr. Hanna Marti

Program-specific talks / webinars for doctoral students

MIM Forum 1

June 27, 2023 / Prof. Annette Oxenius

How to analyse cellular phenotypes, differentiation pathways and functions - using the example of T cell responses in face of persistent viral infections. *An interactive workshop that links discoveries from the 1990's to nowadays methodologies.*

MIM Forum 2

August 29, 2023 / Prof. Klaus Eyer

Expanding the impact of your results – patents, start-ups, and other translation. *Insights into challenges, pitfalls, failures, and success stories from a scientist's personal experience - an interactive Q and A in translating scientific results.*

MIM Forum 3

November 6, 2023 / Prof. Huldrych Günthard

A translational researcher at the interface of two Epidemics: HIV-1 and SARS-CoV-2

ChatGPT & Beyond – Understanding Modern Language Models

September 28, 2023 / Webinar offered by Dr. Leo Betschart (ETH infozentrum)

Program-specific offerings for Principal Investigators

Welcome event for new MIM PIs

January 19, 2023

The co-directors introduced the new MIM PIs to the organization of the doctoral program and the benefits of a membership, and thematized good mentoring of doctoral students.

MIM General Assembly

January 19, 2023

The program members meet once a year. This General Assembly elects new members of the program, elects the steering committee of the program and decides about changes in the regulations of the program.

MIM PI workshop “Scientific writing: Using ChatGPT effectively and responsibly”

October 6, 2023 / Dr. Christine Bärtsch (ETH Library) and Dr. Réka Mihálka (Scientific Writing Services | Manuscript Manufacture)

The workshop was generously offered by ETH Library.

MIM career events and other activities

In 2023, a series of events was offered for candidates, current students & alumni on various topics (the events were organized with support of the MIM student representatives and PhDs):

LSZGS Recruitment Round / virtual get-together with candidates	26.01.2023
LSZGS Recruitment Round / virtual get-together with candidates	07.09.2023
LSZGS Recruitment Round / virtual get-together with candidates	14.12.2023

Mentoring & Mental Health Events

MIM self-help group meeting in Alehouse	27.02.2023
MIM self-help group meeting in Alehouse	24.04.2023
MIM self-help group meeting in Alehouse	19.06.2023
Kick-off event <i>MIM wellbeing helpline</i> , with support of the coordinators of the AVETH Counselling	11.07.2023
MIM self-help group meeting in Alehouse	21.08.2023
Input by Silvia Passalacqua (PBS UZH) for helpline operators	12.09.2023
Kick-off event <i>MIM Mentoring Program</i> with Annika Martin	31.10.2023

Social Events

New Years Reception (Alumni Lounge)	12.01.2023
Farewell student representative – Snow Day in Davos	11.03.2023
MIM BBQ	20.07.2023
BioMed/MIM event: Presentation of scientific techniques (Bellavista)	13.11.2023
Game & Movie Night	07.12.2023
Christmas market / mulled wine event	14.12.2023

& MIM Monday – every first Monday of the month

Career Event

Company visit / Gilead, Zug	28.06.2023
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The events could be carried out thanks to funding from UZH (Post-SUK financing) and carryovers from SHK funding from recent years.

Advisory Services

MIM Mentoring Program

As the demand for getting a mentor (senior PhD or Alumnus/a) was still high, new mentors were trained by Dr. Annika Martin in 2023 and our newly recruited PhDs can continue to benefit from a 1:1 mentoring support by an assigned mentor.

MIM wellbeing helpline

In November 2023, the MIM wellbeing helpline was launched. The MIM helpline is an initiative

offered by PhD for PhD students. It aims to provide support, guidance, and a listening ear to its community. The helpline team is composed of Dario Burri, Jasmin Tschumi, Lina Kim, Manal Bel imam, Maria Hesselman and Paolo D'Avino (all ENSA mental health first aid helpers) and the team coordinator is Corina Hadjicharalambous.

MIM self-help group “mental health”

A group of MIM PhDs meets regularly for discussion of issues that arise in the PhD experience (peer mentoring / intervision). Anyone wishing to get involved can contact the group and bring in a topic.

Ombudsperson

Various members of the program got in contact with Prof. em. Hans-Martin Fischer (MIM Ombudsperson), the MIM coordination office or / and the co-directors of the MIM PhD Program.

Travel Grants

The MIM Program provides travel support for national / international conferences / meetings. The following travel grants have been approved:

Julia Gschwend	Keystone: Myeloid Cells: Development, Diversity And Distinct Biological Roles
Aline Bauer	4th EVBO Summer School (Single Cell and Spatial transcriptomic / Model systems for vascular biology)
Ana Katic	Microbiology 2023 - from single cell to microbiome and host
Juan Villar Vesga	36th edition of the European Macrophage and Dendritic Cell Society (EMDS)

Outlook

MIM activities, such as the offered courses, career and social events, as well as the program's core activities (MIM PhD student retreat, MIM Introductory Course), were well-attended and will therefore be continued in 2024. The existing support services (MIM Mentoring Program, mental health self-help group, MIM Ombudsperson) have been complemented with a newly launched MIM wellbeing helpline in 2023. During the pilot phase of one year, the demand for this form of support will be assessed.

MIM hopes to contribute to the well-being of PhDs with all the above-mentioned support options. MIM regards mental health as an important focus, especially because a survey conducted in 2023 showed that half of the participating PhD students rate their mental health as fair, poor, or even very poor.

The ongoing uncertainty regarding the future funding of the LZSGS / the PhD Programs remains an important and pressing issue. MIM seeks both internal solutions (e.g., optimize costs and benefits of the recruitment process) and external solutions. For the latter, MIM participates in a working group of the LSZGS (headed by the MIM co-director Rolf Kümmerli) to find stable and sustainable funding solutions for all LSZGS PhD Programs. The strategy is to unify forces at the LSZGS level to enter in financial negotiations with various stakeholders.



Molecular Life Sciences

Program Motivation

The Molecular Life Sciences Ph.D. program is a 4-5 year Ph.D. program with the aim to recruit and train outstanding young scientists in biochemistry, genetics, microbiology, as well as cell, computational, developmental, molecular, structural, and systems biology. The MLS program recruits internationally and strives to bring the very best students interested in aspects of molecular life sciences to Zurich. Through its activities, the program aims at strengthening Zurich as a center of excellence in graduate education and cutting-edge research in life sciences.

Overview

Founded in 2003, the MLS program has currently 88 faculty members, who are associated with over a dozen different departments/institutes at the ETH Zurich (ETH) and the University of Zurich (UZH). 162 graduate students were enrolled in the MLS program by the end of 2023 of which 95 (59%) are women and 67 men. 37 MLS students graduated in 2023. The program has now 626 alumni in total. The average time to successfully complete a Ph.D. thesis in the MLS program remains with 4 years and 7 months and 19 days nearly unchanged.

The program in figures and numbers 2023

Program statistics	as of December 31
Program students	162
UZH affiliation	85
ETH affiliation	77
Track I students	108
Track II students	54
Female students	95
Male students	67
International students	136
Swiss students	26
Program drop-outs	2
Completed PhD	37
Program Alumni	626
Faculty members	88

Student Body

Currently, the program trains 85 UZH and 77 ETH students. German (28) and Swiss (26) students account for a bit more than one third of all students. The next larger groups are the Chinese (14), Indians (12), Italians (11), and the British (10) followed by the Austrians (7), Greeks (6), and Dutch (6). Three students come from Russia and Sweden. Two students come from America, Belgium, Canada, Czech Republic, Estonia, Hungary, Slovakia, and Taiwan. In addition, we have one student each from Belarus, Croatia, Cyprus, Egypt, Finland, France, Iran, Japan, Lebanon, Malaysia, Peru, Serbia, Slovenia, Spain, Sri Lanka, Turkey, Ukraine and Venezuela in the MLS program.

Recruitment 2023

Recruiting statistics	December 1, 2022	July 1, 2023	November 1, 2023
Complete applications	199	201	269
Invited candidates	41	35	23
Drop-outs before interview	4	5	2
Free slots (MLS priority program)	22	14	17
Filled slots	17	13	7
Total matches	11	12	5
Candidates without matches	10	5	9
Drop-outs after virtual interview	4	2	1
Reject site visit invitation	1	-	-
Drop-out after site visit	3	1	2
Reject offer	3	1	4
Rejected candidates	2	1	-
Change to other LSZGS programs	7	6	2
Gained from LSZGS programs (included in total of matches)	4	-	3

Program Organization

The program is led by an elected Steering Committee (SC) with executive power. Since November 2006 the steering committee is formed of 7 faculty representatives and two student representatives (one of an institute from UZH, and one of an institute from ETH):

SC Members

Prof. Yves Barral (ETH – vice chair) (until June 2023)
Prof. Konrad Basler (UZH)
Prof. Stefanie Jonas (ETH)
Prof. Ohad Medalia (UZH – chair)
Prof. Gabriel Neurohr (ETH - vice chair) (since June 2023)
Prof. Francesca Peri (UZH)
PD Dr. Raffaella Santoro (UZH)
Prof. Anton Wutz (ETH)
Marwa Peters (ETH – student representative, since August 2023)
Evangelos Bouris (UZH - student representative, since August 2023)
Michaela Remisova (ETH – student representative, until August 2023)
Benedikt Wimmer (UZH – student representative, until August 2023)

In 2023, the SC met 3 times to discuss and decide on various program activities. All reunions were held online.

The MLS program faculty consists of 88 principal investigators (PIs) from several different institutes and faculties of the UZH and the ETH. Since Fall 2005 all group leaders who want to become member of the MLS faculty, have to submit their application to the SC, irrespective of their affiliation. Three new faculty members joined the MLS program in 2023. MLS program faculty members support the program by serving on admission or travel grant committees as well as by teaching course modules or tutorials.

PIs leaving:

Erik Böttger, Department Medical Microbiology, UZH
Michael Detmar, Institute of Pharmaceutical Sciences, ETH
Sergio Gloor, Department of Biochemistry, UZH
Andreas Plückthun, Department of Biochemistry, UZH

New PIs:

Anamaria Balic, Institute of Oral Biology, UZH
Tommaso Cavazza, Department of Reproductive Endocrinology, UZH
Christoph Messner, Swiss Institute of Allergy and Asthma Research, UZH

A program coordinator oversees the day-to-day program matters. The program coordinator monitors the students' progress, schedules the interviews and lab visits, organizes meetings and admission sessions and manages the finances of the program. The employment of the MLS program coordinator is currently 35%. Dr. Susanna Bachmann, who joined the MLS program as program coordinator in the fall of 2003, continued in this function in 2023.

Finances 2023 (in CHF)

	Income	Expenses
Balance as of January 1		
Income		
ETH	40'000	
UZH	16'050	
Post-SUK UZH	19'000	
Post-SUK ETH	15'000	
Fees	10'500	
Sponsoring Retreat	2'650	
Total income	103'200	0
Expenses		
Salaries program (with social benefits)		51'747
Recruitment September 2022		5'092
Recruitment February 2023		7'325
Program activities: Retreat		25'748
Travel Grants		12'610
Christmas Party		2'348
Alumni (1 Career Event)		0
Program Teaching		0
Overhead		410
Total expenses		105'280
Balance as of December 31		- 2'080

Program Activities

Teaching

Module	Length	Dates	Participants	Facilitator/Remarks
BIO662: Ethical Issues in Human Genetics and Genomics	2x 1 day	3 & 10 February	20 students	Anna Deplazes
Scientific Writing – Effective Communication	4x ½ day	9, 14, 16 & 21 February	20 students	George Hausmann
1 st -year-Presentations	4x ½ day	13, 17, 25 February & 3 March	14 students & 3 moderators	Susanna Bachmann
MLS Retreat	3 days	2 - 4 August	35 students	7 organizers
Scientific Writing – Effective Communication	4x ½ day	16, 21, 23 & 28 August	19 students	George Hausmann
Impact of Ethics on Doing Science	2x 1 day	1 & 8 September	17 students	Anna Deplazes & George Hausmann
1 st -year-Presentations	4x ½ day	31 August, 5, 12 & 19 September	12 students & 3 moderators	Susanna Bachmann

Though most courses are taught in-person and on-site since the pandemic restrictions have been lifted, we have kept a few virtual sessions in the 1st-year presentation course in order to give the participants the opportunity to present in-person as well as online.

Because the SUK support ended in 2021, the program is not able to offer transferable skills courses in its own right. However, these courses are still organized by the Life Science Zurich Graduate School and other units of the University and ETH. Thus, the program students have a lot of possibilities to gain cross-disciplinary skills.

Tutorials

Also in 2023, several tutorials were offered by faculty members of the MLS program and external trainers to a small group of students (usually not more than 6 participants). The workload for the students is approx. 25-30 hours. The tutor and the participants decide when and how often they meet. A minimum of 6 contact hours with the tutor is required per tutorial by the MLS program.

Topic	Tutor
Tutorial on Asymmetric division introducing diversity into cell fate decision	Yves Barral
Tutorial on Exploring the Interaction Between Tumors and the Central Nervous System	Martin Baumgartner
Tutorial on Fundamentals of Tumor Lymphangiogenesis	Michael Detmar
Tutorial on Sustainability in life sciences laboratories	Elisa Dultz & Janka Zsok
Tutorial on Virus principles - With imaging to mechanism	Urs Greber & Alessandro Savi
Tutorial on Organising Scientific Events	Anneke Hibbel
Tutorial on Chromosome Identity	Madhav Jagannathan
Tutorial on Life beyond the PhD sneak peek into different career pathways	Ana Laranjeira
Tutorial on Microfluidics - Fundamentals and applications in life science	Sung Sik Lee
Tutorial on Computational biology	Thomas Michaels
Tutorial on Computational Protein Stabilization with the Rosetta Protein Modeling Suite	Erich Michel
Tutorial on U-Net tutorial for biologists	Thomas Naert
Tutorial on Tutorial Sequence analysis & phylogenetics	Stephan Neuhauss & Nicolas Rieser
Tutorial on Biodiversity monitoring & eDNA	Stephanie Lüthi

To our satisfaction the tutorial platform is running smoothly, and it has proven to be very user-friendly and easy to handle. As with the courses, most tutors went back to in-person teaching, recurring to online sessions when indicated.

Retreat

The 19th MLS retreat was held from 2nd to 4th August 2023 at the same venue as the previous year: the Park Hotel "Inseli" at the lake Constance. The aim of the retreat is mainly to allow students to exchange knowledge, and to provide them an opportunity to improve their presentation skills. All

first-year students who had started their Ph.D. before 1 June 2023 either gave a talk or presented a poster. Four external speakers, Prof. Omayya Dudin (EPFL), Dr. Lisa Wellinger (Ridgeline Discovery) and Dr. Anna Camus (Cimeio Therapeutics) and Dr. Natalie De Souza (ETH) provided the students insights into their respective fields of research or work. Apart from the poster presentations, talks and discussions, the retreat committee organized different leisure activities at the shore of lake Constance. The organizing committee was formed by: Sandra Bruderer, Irina Ferapontova, Bohdan Lewkow, Michaela Remišová, Luca Riermeier, Jannik Thüringer and Benedikt Wimmer.



Awarded Travel Grants 2023

As the funding of the travel grants was the part of the program’s budget with the most severe cuts, the program does not advertise the travel grants very intensively anymore. Despite the financial restrictions, the committee managed to fund most of the application, but awarded often less than the required maximum of CHF 1'000.

The deadlines for application were: 1 March, 1 July and 1 November:

Student	Attended conference/summer school/ course/ workshop
Marija Banović	Gordon Research Conferences: Autophagy in Stress, Development and Disease
Eliana Bianco	28th RNA Society Annual Meeting
Evangelos Bouris	PRION 2023
Fabienne Brutscher	European <i>Drosophila</i> Research Conference
Clara Duré	Gordon Research Conference and Seminar – Stem Cells and Cancer
Denise Goly	11th International Fission Yeast Meeting

Argyro Lamprou	The Notch Meeting XII
Nicolas Mathis	Cold Spring Harbor, Genome Engineering: CRISPR Frontiers
Guido Narduzzi	Gordon Research Conference on Protein Folding Dynamics
Marina Sarantseva	Asia Pacific Drosophila Research Conference
Sebastian Siegner	6th DNA Repair/Replication Structures and Cancer Conference
Merula Stout	EMBL course: Advanced fluorescence imaging techniques
Fabiola Valdivia Francia	IRB Barcelona Biomed Conferences: Cancer in Context
Tim Weber	Gordon Research Conference on Synthetic Biology
Benedikt Wimmer	Microbiology 2023 – From Single Cell to Microbiome & Host
Merve Yigit	EMBL Protein Synthesis and Translational Control

Travel grant committee: Martin Müller (PI, UZH), Madhav Jagannathan (PI, ETH), Sebastian Siegner (MLS student). In total, the program awarded CHF 12'610 as travel grants.

Social and Other Activities

Newsletter: We dispatched the summer newsletter on 5 July (the winter newsletter was only sent out in January 2024). Among other items the newsletter contains a presentation of a faculty member or a member of the steering committee, information about past and forthcoming events, feedback about one or several tutorials from the organizing PI (tutor) and/or the participants and an overview which students have started in the program and left it in the past six months. The letter is sent out to current and former program students as well as to all faculty members. It is planned to issue the MLS newsletter in 2024 again twice per year.

Students in charge in 2023: Whitney Jordaan and Taiyo Yamamoto.

Career and Networking event 2023: Because of the budget cuts there were no career and networking events organized in 2023. Since a lot of very similar events are happening throughout the year, the doctoral students have plenty of opportunities to get in touch with former students of the Life Science Zurich Graduate School to learn about their professional careers. The program might consider continuing the series, when the financial situation is again stabler.

However, with the Christmas Party another “traditional” event could take place in 2023. It was celebrated on 15 December in the “Loch Ness” on the ETH Höggerberg Campus.

Outlook

As expected, also in 2023 inflation rates remained relatively high, which further jacked up prices for salaries, travels, and accommodation. Although the costs for the recruitment are by no means comparable to what the program spent before the two-step recruitment with a round of virtual interviews and subsequent in-person visits, they still account for a substantial share of the available budget. Furthermore, the Faculty of Science announced the introduction of a sustainability fee by the beginning of 2024 that will be applied retrospectively to all flights billed to any university cost center in 2023. Even though the details of this royalty are not yet known, it is very likely that it will further increase the travel costs of the applicants and therefore have an impact on the recruitment.

Besides the soaring costs for recruiting students, the difficulties in attracting good doctoral candidates to the program have become worrisome as well. Though the sheer number of applications has reached new heights, the educational background, research experience and the interests of the contenders often do not match the requirements of the offered projects. While the

use of AI by the candidates decreases the differences between the individual profiles and makes it tougher to select the best students, the program must think about the repercussions this will have on the shortlisting process. At the same time, the increasing application numbers might also sooner or later ask for the use of AI by the reviewers, if they shall still be able to assess all the dossiers within a reasonable time span. Yet another issue is the relatively high loss of outstanding applicants to other, mainly European, programs during the recruitment process. Even though Switzerland cannot really compete with the programs in the UK because many aspirants prefer to perform their PhD in an English spoken country, the MLS program could still place more emphasis on the very high standard of the research environment at ETH and UZH to attract and eventually gain more excellent doctoral candidates from within and outside Switzerland.

This year, 2024, is the last year of which the program benefits generously from the post-SUK funding, kindly offered by the ETH and UZH. The MLS program will sorely miss the CHF 19'000 allocated by the UZH Schulleitung and the CHF 15'000 matched by ETH to reward our efforts in delivering excellent services for our program members and doctoral students. A cut of CHF 24'000 in the budget for the year 2025 will mean that the program will have to do quite a bit of belt tightening to keep the expenses in balance with the all the running costs. Sadly enough, the steering committee already had to decide that the celebration of the 20-year anniversary in April 2024 falls victim to budget cuts. Notwithstanding, also with a limited budget the program shall still be able to maintain its core services at the accustomed high quality.

Neuroscience (ZNZ)

The program in figures and numbers

Program statistics	as of Dec. 31
Program students	292
UZH	198
ETH	90
Other affiliation	4
Track I students	48
Track II students	244
Female students	175
Male students	117
International students	216
Swiss students	76
Program drop-outs	34
Completed	38
Program alumni	22
Faculty members	160

Recruitment

Recruiting statistics (ZNZ did not participate in the round with DL 1 July 2023)	DL 1 Dec 2022 Interviews Jan. 2023	DL 1 Nov 2023 Interviews Jan. 2024
Complete applications	-	170
Invited candidates	13	23
Drop-outs before interview	4	4
Free slots (XX priority program)	8	12
Matches	2	5
Candidates without matches	4	13
Decision against program	-	-
Rejected candidates	-	1
Change to other LSZGS programs	2	-
Gained from LSZGS programs	1	-

Finances in CHF

	Income	Expenses
Balance as of January 1		
Income		
ETHZ	37'590	
UZH	37'595	
Fees		
Other		
Expenses		
Salaries program		9'610
Social benefits		
Recruitment December 1		2'775
Recruitment July 1		
Program activities (retreat, symposia, etc.)		62'800
Overhead		
Total		
Balance as of December 31	75'185	75'185

Program Activities

1) Courses

- Introductory Course in Neuroscience I (Fall term 2023)
- Introductory Course in Neuroscience II (Spring term 2023)
- Neuroimaging Block Course, May 2023
- Course in Science Ethics for Cancer Biologists and Neuroscientists, June 2023
- Crash Course in Statistics for Neuroscientists, August 2023
- Writing in Neuroscience Research, an Intensive Course (Dr. Simon Milligan), July 2023
- Writing Research Articles in Neuroscience (Dr. Anna Ekert), July – September 2023
- Advanced Analysis of EEG Data Using Matlab. July 2023
- BIO 628, Block Course for MD PhD Students in Neuroscience, June-July 2023

2) Symposia, conferences and other scientific activities

- ZNZ PhD Retreat in Valens, June 2023
- ZNZ Symposium and Best PhD Thesis Award and Best Poster Awards, September 2023

Plant Sciences

The program in figures and numbers

Program statistics	as of December 31
Program students	116
UZH affiliation	40
ETH affiliation	58
Uni Basel affiliation	17
Other institutions	1
Track I students	7
Track II students	109
Female students	68
Male students	48
International students	79
Swiss students	37
Program drop-outs	49
Completed PhD	8 in 2023 at UZH
Program Alumni	667 (total until 2023)
Faculty members	19

Recruitment

Recruiting statistics	December 1 (2022)	July 1 (2023)	November 1 (2023)
Complete applications	46	56	142
Invited candidates	0	0	1
Drop-outs before interview	0	0	0
Free slots (Plant Sciences priority program)	0	0	1
Matches	0	0	1
Candidates without matches	0	0	0
Decision against program	0	0	0
Rejected candidates	0	0	0
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	0

Finances

	Income	Expenses
Balance January 1	69'854.36	
Income	51'910	
ETHZ		
UZH		
Fees		
Other	SUK income is reported elsewhere	
Expenses		
Salaries program		16'000.00 (Last) 20'894.20 (Steinbach)
Social benefits		
Recruitment December 1		0
Recruitment July 1		0
Program activities (retreat, symposia, etc.)		25'222.00
Overhead		reported elsewhere
Total		62116.20
Balance as of December 31		59648.16

* Saläre total für beide PSC PhD Programme = CHF 46'045.00 (Last, from these 10% in Plant Sciences) und CHF 20'894.20 (Steinbach, lower due to 4 months of sick leave)

Program Activities

The PSC has core infrastructure and personal resources to carry out and manage training for 500+ participants per year. Established training formats range from workshops, colloquia and lectures to summer schools, and face-to-face events to blended learning and e-learning formats that make our education highly scalable in number of participants. Didactical formats include case-study work, cognitive apprenticeship models, role play scenarios, simulations but also hands-on training in tools and methodology and experimentation that make our education highly successful in targeting learning objectives to the different target groups and demands of a multi-faceted academic education.

The PSC educational programs are embedded in several educational platforms that operate nationally and internationally and make the course offer of the PSC and of corresponding programs fully transferable: Life Science Zurich (www.lifesciences.ch), an international graduate school in life sciences, Swiss Plant Science Web (www.swissplantsciencweb.ch), housing 9 national PhD programs in Plant Sciences, Graduate Campus University of Zurich (www.grc.uzh.ch), bringing together all PhD students of the University of Zurich.

Students registered in the program in the reporting period, as of Dec 31

Year	TOTAL	University of Zürich	ETHZ	University of Basel	Other	Female	Male	National	International
2023	116	40	58	17	1	68	48	37	79

Program Curriculum for the PSC PhD Program in “Plant Sciences”

Since 2003 The PSC has offered the PhD Program in Plant Sciences with 20 – 30 ECTS per year of methodological training in several areas of plant sciences. Truly interdisciplinary our lectures and workshops are focusing on current and innovative research concepts from molecular and plant biology to ecosystems. Hands-on training introduces you to up-to-date research techniques including a large set of workshops on digital skills, statistical methods, machine learning or the use of artificial intelligence in the plant sciences. Transferable skill training is offered in:

- Understanding of the research environment and scientific community (e.g. understanding standards of good research practice and ethical standards, funding and publication practices in research)
- Research management (e.g. project management in research)
- Training of communication skills (e.g. scientific writing, scientific presentation, scientific communication practice)
- Networking and teamwork
- Career management

	Course category	Course title	ECTS
Compulsory	PSC Colloquium	Challenges in Plant Sciences	2 ECTS
	Research Integrity	Please consult the regulations of your university.	0–1 ECTS
	Other Compulsory Course(s)	Please consult the regulations of your university.	Depends on the regulations of your university
Core Elective Activities	Research & Technical Skill		4–10 ECTS
	Digital Skills & Statistics		
	Transferable Skills		
Elective Activities	Talk or Poster: Participation in international scientific symposium (max. 1 ETC)		max. 6 ECTS
	Engagement <ul style="list-style-type: none"> In Green Labs (UZH only (max. 1 ECTS) Organization of PSC PhD Symposium (max. 2 ECTS) 		Remaining ECTS may be chosen with approval of principal investigator or thesis committee.
	Other scientific or transferable skill courses		

At the University of Zurich and ETH Zurich, a total of 12 ECTS are required.

At the University of Basel, a total of 18 ECTS are requested.

Recruitment & interviews:

The PSC offers a fully implemented Track I admission channel (recruitment via Life Science Zurich Graduate School, LSZGS) following LSZGS guidelines that was used for 3 of the 35 PhD students recruited to the program in 2023.

For Track II admission channel (direct application to principal investigator, PI): We now request formal admission interview with future PhD students to be organized by PI. The interview should be conducted in the presence of at least one other principal investigator or faculty member and is confirmed with signed PhD Program interview protocol. This admission channel is used for 32 of the 35 PhD students recruited to the program in 2023.

Supervision:

The supervision is following the regulation of the partner universities and includes doctoral agreement between supervisor and PhD students is set up 6 months after arrival of student. Set up of a research plan, establishing of thesis committee with internal and external experts, thesis committee meeting all 12 month and documentation of the meeting and the feedback in the thesis committee meeting protocol. The protocol is part of the documentation that is sent to the doctoral program coordination. The coordination is communicating to the universities' management (dean of faculties) if thesis committee

meetings are not carried out regularly. Establishment of these processes in 2023 we can currently report.

- 90% of all scheduled thesis committee meetings in 2023 finished in time and 10% delayed by 3 – 6 months at University of Zurich
- 90% carried out in time and 10% delayed by 3-6 months at ETH Zurich.
- 60% carried out in time and 40% delayed (or submitted late to DissGo) by 3-6 months at University of Basel

Revision of the ETH Zurich Ordinance of the Doctorate:

On January 1, 2022, the new ETH Zurich Ordinance on the Doctorate (<https://rechtssammlung.sp.ethz.ch/Dokumente/340.31en.pdf>) entered into force. The new Ordinance on the Doctorate applies to all doctoral candidates who enroll in a doctorate from January onwards. It also applies – with some transitional provisions – to those who have already been accepted for a doctorate.

Doctoral students at ETHZ are supervised by at least two people. The (1) official supervisor of the doctoral thesis (professor at the Department) and (2) the second advisor (an adjunct professor or Privatdozent/in, provided that (a) she or he works full-time at the ETHZ, and (b) both institutes have agreed). The second supervisor must be defined at the latest till submission of the doctoral plan. The doctoral administration (doktorat@ethz.ch) must be notified of the second advisor before the aptitude colloquium. Doctoral students have the right throughout the doctoral study to request another person to be available for additional professional or nonprofessional advice and support as needed.

Information about your doctoral studies at ETHZ and particular requirements of different ETHZ departments are available here:

<https://ethz.ch/students/en/doctorate.html>
<https://ethz.ch/en/doctorate/legal-basis.html>.

Template for registration of second supervisor is available here:

<https://ethz.ch/students/en/doctorate/second-advisor.html>

Departments D-USYS and D-BIOL

Doctoral Plan (replaces Research Plan):

A written research proposal, including the research plan and teaching requirements, is to be defined minimum 15 working days before the Aptitude Colloquium (D-USYS) and latest 10 months (D-BIOL) after registration. Should a thesis be carried out outside the ETHZ domain, it should be specified in the doctoral plan. The doctoral plan needs to be submitted to the aptitude committee and the doctoral studies panel (Deadline, see ETHZ MyStudies).

Aptitude Colloquium: The aptitude colloquium is an oral defense of the research plan to be held at the latest 12 months after registration at ETHZ (see MyStudies). The defense lasts around 60 minutes including a presentation by the doctoral student (max 30 minutes) and a discussion between the doctoral student and the aptitude committee

about the doctoral plan. The aptitude committee is composed of the chairperson and the Thesis Committee. The chairperson must be (a) a member of the doctoral studies panel (Doktoratsausschuss) or (b) a person appointed by the doctoral studies panel who must be a full or associate professor at ETHZ department. The PhD-Student is responsible to organize the aptitude colloquium, which can be conducted with partial or full physical presence of the aptitude committee and the doctoral student or entirely by video conference.

Information on the Doctoral Plan and Aptitude Colloquium:

<https://ethz.ch/students/en/doctorate/doktoratsplan.html>
<https://ethz.ch/en/doctorate/legal-basis.html>

Information for submission of the Doctoral Plan:

D-BIOL: <https://biol.ethz.ch/en/doctoral-studies/doktoratsplan---eignungskolloquium.html>

D-USYS: <https://usys.ethz.ch/en/doctorate.html>

Progress report (replaces Thesis Committee Meeting Protocol): All doctoral students must complete a progress reports. This is due after the appointment of a second supervisor. The PSC recommends involving external partners or supervisors. The progress report must be completed annually. The progress report forms the basis for the annual status conversation. The document must be kept for the entire duration of the doctorate. The duty of safekeeping is incumbent on the persons involved (doctoral students, dissertation supervisors, second advisors)!

Annual status conversation: All doctoral students must have an annual status conversation with the supervisor of their doctoral thesis. This is due after the appointment of the second supervisor. The supervisor of the doctoral thesis will determine the date. It consists of 2 parts and covers the following topics: Part 1 (Scientific Progress) and Part 2 (performance assessment, career and personal development).

The minutes of the status conversation must be kept for the entire duration of the doctorate. The duty to keep the minutes is incumbent on the persons involved (doctoral students, dissertation supervisors, second advisors)!

Exam Registration and Doctoral Examination: The final degree is conferred by your home institution. For your registration at the doctoral administration, have a look at:

<https://ethz.ch/students/en/doctorate/doktorpruefung.html>

PSC Trainings and Certifications

The PSC PhD Program “Plant Sciences” is finished with a **PhD Program certification**. The certification is part of the diploma supplement of the doctoral certificate that is awarded by the University of Zurich, ETH Zurich or University of Basel. The certification includes a transcript of record of all PhD courses work carried out by the PhD student.

<https://www.plantsciences.uzh.ch/en/research/moments-of-discovery.html>

PhD education

Digital skills

In 2022/2023, the PSC has placed a focus on expanding courses in the field of digital skills and competencies in the field of doctoral training. In 2022, a summer school "Application of Machine Learning in Plant Sciences" was held. At the same time, the existing cross-university curriculum in digital skills was made more visible, described, and supplemented with the necessary courses. 2023 – FS 2024 this work will be completed. All new courses are then carried out once and included in the curriculum. The work here is based on third-party funds and is financed as part of a SUK project on digital skills at ETH Zurich. The courses are fully available to Basel doctoral students.

Starting in June 2023, we introduced generative AI as part and tool in the scientific writing process in Scientific Writing I and II. Additionally, using generative AI in research in a responsible way was introduced in the Research Integrity Course of the PSC through several moral cases.

Programming

Carried out in 2023: Intro to UNIX/Linux and Bash scripting BIO609, 1 ECTS, FS
Intro to R, 1 ECTS, HS
2023: Genetic Diversity: Techniques (2 ECTS, HS) and Analysis (2 ECTS, FS)

Data Management

2023: Reporting using Markdown (and Shiny) applications, 1 ECTS, biannually in FS
Advanced Data Management and Manipulation using R, 1 ECTS, annually in FS

Imaging

Advanced course on 3D plant microscopy and image processing, 1 ECTS, FS
New: Machine learning and **image processing** in plant sciences and related disciplines, 1 ECTS, in planning, delayed to 2024

Machine Learning

2023: Introduction to machine learning methods in plant sciences, 1 ECTS, HS
Planned 2023: Deep learning methods in image processing, 1 ECTS, HS

Statistic, Modelling

2023: Statistical modelling, 1 ECTS, FS
2023: Compositional data analysis, 1 ECTS, biannually FS
2023: Introduction to Genome-Wide Association Studies (GWAS), bi-annually in HS
2023: Next generation sequencing 1 BIO610, HS
2023: Next generation sequencing 2 BIO634, HS
2023: General linear and linear mixed models in R, crosslinked, FS
2023: Introduction to structural equation modeling, HS
Planned 2024: Bayesian Statistics and Application

Visualisation

2023: Scientific visualisation using R, 1 ECTS, HS

Ethics

2024: Value-based design processes in emerging technologies; 1 ECTS.

We communicate a large set of crosslinked courses from other entities in UZH and ETHZ as part of our digital skill training:

Reproducibility: Center for Reproducible Science (UZH)

<https://www.crs.uzh.ch/en/training.html>

FS23: Open and Reproducible Science: General Reasons and Approaches (UZH 10SMOS_1)

FS23: 5 Steps to Good Data Science Practice in R (UZH 10SMOS_2)

HS23: Get R_ready: Dynamic Reporting & Reproducibility in Research (10SMGETR_2) 23.11–07.12.2023 (block course)

HS23: Get R_ready: Introduction to Data Analysis for Empirical Research (10SMGETR)

Functional Genomics Center (UZH-ETHZ) <https://fgcz.ch/education.html>

FS 23, HS23: RNA Next Generation Sequencing – A Practical Course, UZH BIO675 Life Sciences

FS 23: Introduction to Proteomics Data Analysis and Beyond

FS 23: Genetic Variation Analysis Course, UZH BIO694

HS23: Next Generation Sequencing Applied to Metagenomics (BIO638)

ETHZ Library <https://library.ethz.ch/en/news-and-courses/courses.htm>

HS23: Research Data Management and Related Topics

Courses carried out in the reporting period

In the reporting period, the PSC organized 33 courses. We report 347 course visits of PhD students.

Table 1: Number of courses carried out and number of course participations. Participants per University are summarized over all courses.

Year	Total Course Nr	Part. University of Zurich	Part. ETH Zurich	Part. University of Basel	Part. Other	Course Participations
2023	33	121	190	33	9	347

Table 2: Courses in the PhD Program in Plant Sciences and number of participants.

Date	Course	Speakers / case study supervisors	Participants
20.1. / 27.1.2023	Introduction to R	Dr. Jan Wunder (Wunderconsulting)	ETH (9) UZH (9) UNIBAS (0) Other (0)
28.01. - 23.05.2023	Teaching science at the University	Dr. Sarah Petchey (UZH)	ETH (1) UZH (1) UNIBAS (0) Other (0)
07.02./08.02. / 10.02.2023	Creative Science Communication	Dr. Juanita Schläpfer (PSC), Dr. Manuela Dahinden (PSC)	ETH (8) UZH (1) UNIBAS (1) Other (0)
02.02. / 06.02. / 09.02.2023	Scientific Writing II	Dr. Jacopo Marino (Paul Scherrer Institute, Villigen)	ETH (7) UZH (6) UNIBAS (0) Other (0)
23.02.– 01.06.2023	Microbiomics 1: The Microbiome of the Plant-Soil System (ETHZ VVZ 751- 5127-00L)	Dr. Martin Hartmann (ETHZ)	ETH (1) UZH (0) UNIBAS (1) Other (0)
09.03. / 05.04.2023	Ethics and Scientific Integrity for Doctoral Students	Prof. Nina Buchmann (ETHZ), Dr. Melanie Paschke (PSC)	ETH (23) UZH (2) UNIBAS (0) Other (0)
20.-22.03.2023	Filmmaking for Scientists (Unibas VVZ 46576-01)	Dr. Samer Angelone	ETH (1) UZH (4) UNIBAS (4) Other (0)
27.-28.03.2023	Concepts in Evolutionary Biology (BIO395)	Prof. Kentaro Shimizu (UZH)	ETH (3) UZH (0) UNIBAS (1) Other (1)
12.04. / 19.04.2023	Scientific Presentation Practice	Dr. Barbara Hellermann (ETHZ)	ETH (8) UZH (3) UNIBAS (1) Other (1)
29.04. / 06.05.2023	Biology of Orchids (Unibas VVZ 39575- 01)	Dr. Lucienne de Witte (Unibas)	ETH (3) UZH (0) UNIBAS (0) Other (0)
08.-09.05.2023	Next generation sequencing for Model and Non- model Species 2: Transcriptomes, Variant Calling and Biological Interpretation (BIO634)	Prof. Kentaro Shimizu (UZH), Dr. Deepak Tanwar (UZH)	ETH (1) UZH (2) UNIBAS (0) Other (0)
22.-24.05.2023	Introduction to Genome-Wide Association Studies (GWAS)	Prof. Thomas Wicker (UZH)	ETH (3) UZH (3) UNIBAS (0) Other (0)
05.–07.06.2023	Statistical modelling	Prof. Matthias Templ (ZHAW), Dr. Barbara Templ (ETHZ)	ETH (9) UZH (4) UNIBAS (1) Other (0)
09.06. / 16.06.2023	Advanced Data Management and Manipulation using	Dr. Jan Wunder (Wunderconsulting)	ETH (4) UZH (10)

	R		UNIBAS (2) Other (0)
12.–15.06.2023	Microbiomics 2: Metabarcoding - from Bioinformatics to Statistics	Dr. Martin Hartmann (ETHZ)	ETH (11) UZH (2) UNIBAS (1) Other (2)
12.–29.6.2023	General Linear and Linear Mixed Models in R	Prof. Pascal Niklaus, UZH	ETH (3) UZH (2) UNIBAS (1) Other (0)
13.–15.06.2023	Basic Plant Disease Diagnostics	Prof. Monika Maurhofer Bringolf (ETHZ)	ETH (7) UZH (0) UNIBAS (2) Other (1)
19.06.- 30.06.2023	Genetic Diversity: Analysis (ETHZ VVZ: 701-1425-01L)	Dr. Jean-Claude Walsler, Dr. Niklaus Zemp (GDC, ETHZ)	ETH (1) UZH (2) UNIBAS (0) Other (0)
04.07. / 06.07.2023	Managing your Publication Workflow and your Open Data	Dr. Philipp Mayer (science-textflow.ch)	ETH (6) UZH (6) UNIBAS (1) Other (1)
17.07. / 14.07.2023	Reporting using R Markdown & Shiny	Dr. Jan Wunder (Wunderconsulting)	ETH (9) UZH (8) UNIBAS (0) Other (0)
16.-22.07.2023	Alpine Plant Ecology - International Summer School 2023 (Unibas VVZ 20045-01)	Dr. Erika Hiltbrunner (Unibas), Prof. Christian Körner (Unibas), Patrick Möhl (Unibas)	ETH (3) UZH (1) UNIBAS (0) Other (0)
27.09. / 11.10. / 25.10. / 08.11. / 22.11.2023	Transdisciplinary Seminar on Research: Challenges of Interdisciplinarity and Stakeholder Engagement (ETHZ VVZ 701-0015-00L)	Prof. Michael Stauffacher (ETHZ), Prof. Christian Pohl (ETHZ), Dr. Bianca Vienni Baptista (ETHZ)	ETH (0) UZH (0) UNIBAS (0) Other (0)
24.10.2023	Scientific Writing I	Dr. Patrick Turko (FGCZ)	ETH (8) UZH (5) UNIBAS (0) Other (1)
24.-26.10.2023	Introduction to Light Microscopy and Image Processing	Dr. Gábor Csúcs (ETHZ), Dr. Nicolas Blanc (ETHZ)	ETH (7) UZH (4) UNIBAS (0) Other (0)
25.10. / 07.12.23	Sustainable Plant Systems (Unibas VVZ: 23138-01)	Dr. G. Singh Bhullar (FIBL), S.F.Bender, Dr. Frank Liebis and Dr. Melanie Paschke (ETHZ & PSC)	ETH (8) UZH (0) UNIBAS (4) Other (0)
30.10. / 27.11.23	Colloquium: Challenges in Plant Sciences (Unibas VVZ: 11670-01)	Prof. Jordi Bascompte (UZH), Prof. Andrea Carminati (ETHZ), Dr. Alan Pacheco (ETHZ), Dr. Beat Keller (ETHZ), Prof. Joëlle Schläpfer (UZH), Prof. Klaus Schläppi (Unibas), Dr. Rie Shimizu-Inatsugi (UZH), Prof. Sara Simonini (UZH), Dr. Thomas Städler (ETHZ)	ETH (17) UZH (13) UNIBAS (10) Other (0)
04.11. / 25.01.23	Current Challenges in Plant Breeding, (ETHZ VVZ 751-	Prof. Bruno Studer (ETHZ), Dr. Andreas Hund (ETHZ), Dr. Simon Krattinger (UZH), Dr. Thomas Wickert	ETH (2) UZH (1) UNIBAS (0)

	3603-00L)	(UZH)	Other (0)
07.11.2023	Introduction to UNIXLinux and Bash Scripting (BIO609)	Dr. Deebak Tanwar (UZH)	ETH (4) UZH (3) UNIBAS (1) Other (1)
07.-09.11.2023	Introduction to Structural Equation Modeling	Dr. Frank Pennekamp (UZH), Dr. Debra Zuppinger-Dingley (UZH)	ETH (4) UZH (1) UNIBAS (0) Other (0)
08.11. / 29.11.2023	Genetic Diversity: Techniques	Dr. Aria Minder (GDC, ETHZ)	ETH (3) UZH (1) UNIBAS (0) Other (0)
23-24.11. / 13.12.2023	Introduction to Machine learning for Plant Scientists	Prof. Jan Dirk Wegner (UZH)	ETH (3) UZH (7) UNIBAS (0) Other (0)
01.12. / 15.12.2023	Scientific Visualisations using R	Dr. Jan Wunder (Wunderconsulting)	ETH (8) UZH (6) UNIBAS (2) Other (1)
12./14.12.2023	Writing a Post-Doctoral Grant	Dr. Andrea Degen (Eurelations AG)	ETH (5) UZH (14) UNIBAS (0) Other (0)

From 01.01.2023 to 31.12.2023, the evaluations of 27 of 30 courses were conducted by the PSC directly: Participants rated these courses between 2.92 to 4 (= fully agree) in "I learned & benefited from this course" and several other aspects. Note: In the last column "The instructor moved at an appropriate pace" a different scale was used.

Course	Number of questionnaires	The course was well organized?	The topics covered met my expectations?	The instructor explained clearly?	Manual was helpful & useful also for future?	Good balance between theoretical & practical?	Level of course was according to my needs?	Working atmosphere was good?	I learned & benefited from this course?	The instructor moved at an appropriate pace? 1 = too slow/too fast, 2 = just right
Advanced Data Management and Manipulation using R	13	3.6 9	3.6 9	3.7 5	3.6 2	3.4 2	3.4 6	3.8 5	3.6 9	1.9 2
Alpine Plant Ecology - International Summer School 2023 (Unibas VVZ 20045-01)	4	4.0 0	4.0 0	3.5 0	3.7 5	4.0 0	3.7 5	4.0 0	3.7 5	2.0 0
Basic Plant Disease Diagnostics	10	4.0 0	4.0 0	4.0 0	4.0 0	4.0 0	3.9 0	4.0 0	3.9 0	2.0 0
Biology of Orchids (Unibas VVZ 39575-01)	3	4.0 0	3.6 7	3.6 7	4.0 0	4.0 0	3.6 7	4.0 0	3.6 7	2.0 0
Colloquium: Challenges in Plant Sciences (Unibas VVZ: 11670-01)	37	3.5 9	2.9 7	3.7 2	3.1 1	2.7 8	2.9 7	3.7 8	3.0 0	1.9 4

Concepts in Evolutionary Biology	17	3.4 7	3.0 6	3.5 9	3.1 3	3.3 5	2.9 4	3.8 8	3.2 4	1.8 8
Creative Science Communication	10	3.5 0	3.2 0	3.7 0	3.2 2	3.7 0	3.0 0	3.9 0	3.7 0	2.0 0
Ethics and Scientific Integrity for Doctoral Students	21	3.4 3	3.5 7	3.6 2	3.5 2	3.4 8	3.3 3	3.4 8	3.5 2	1.9 5
Filmmaking for Scientists (Unibas VVZ 46576-01)	9	3.7 8	3.7 8	3.8 9	3.7 1	4.0 0	3.8 9	4.0 0	4.0 0	2.0 0
Genetic Diversity: Analysis	3	4.0 0	3.6 7	3.6 7	3.6 7	4.0 0	3.5 0	4.0 0	3.6 7	2.0 0
Genetic Diversity: Techniques (ETHZ VVZ: 701-1425-01L)	4	3.7 5	3.1 3	4.0 0	3.6 7	3.2 5	3.6 3	4.0 0	3.7 5	2.0 0
Introduction to Genome-Wide Association Studies (GWAS)	12	3.2 5	3.0 0	3.6 7	3.5 8	3.7 5	3.2 5	3.9 2	3.7 5	1.9 2
Introduction to Light Microscopy and Image Processing	8	3.7 5	3.5 0	3.7 5	3.6 3	3.5 0	3.6 3	3.6 3	3.6 3	2.0 0
Introduction to Machine Learning for Plant Scientists	9	3.7 8	3.7 8	3.8 9	3.5 6	3.8 9	3.6 3	3.8 9	3.8 9	2.0 0
Introduction to R (2023)	5	3.6 0	4.0 0	3.4 0	3.6 0	3.4 0	3.6 0	3.4 0	3.6 0	1.8 0
Introduction to Structural Equation Modeling	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Introduction to UNIX/Linux and Bash scripting (BIO609)	25	3.3 6	3.5 2	3.2 8	3.3 6	3.4 0	3.1 6	NA	3.3 6	1.5 2
Managing your Publication Workflow and your Open Data	13	3.8 5	3.6 2	3.9 2	3.7 7	3.7 7	3.5 4	3.9 2	3.7 7	1.9 2
Microbiomics 2: Metabarcoding - from Bioinformatics to Statistics	18	3.7 8	3.5 8	3.7 2	3.8 9	3.6 7	3.2 1	3.8 9	3.7 8	1.7 9
Next generation sequencing for Model and Non-model Species 2: Transcriptomes, Variant Calling and Biological Interpretation (BIO634)	9	3.4 4	3.5 6	3.3 3	3.2 2	3.6 7	3.3 3	NA	3.5 6	1.7 8
Next-Generation Sequencing and its Application using Machine Learning 1 (BIO610)	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Reporting using R Markdown & Shiny	18	3.7 8	3.5 8	3.7 2	3.8 9	3.6 7	3.2 1	3.8 9	3.7 8	1.7 9
Scientific Presentation Practice	12	4.0 0	3.8 3	3.8 3	3.2 5	3.9 2	3.9 2	4.0 0	3.8 3	2.0 0
Scientific Visualisations using R	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Scientific Writing I	5	3.6 0	3.4 3	4.0 0	3.8 0	3.8 0	3.6 0	3.8 0	4.0 0	2.0 0
Scientific Writing II	13	3.4 6	3.2 3	3.4 6	3.3 1	3.5 4	2.9 2	3.3 8	2.9 2	1.9 2
Statistical modelling	14	3.6 4	3.7 1	3.4 3	3.6 9	3.2 1	3.5 0	3.7 9	3.7 1	1.9 2
Sustainable Plant Systems (Unibas VVZ: 23138-01)	9	3.6 7	3.6 7	3.7 8	3.6 0	3.6 3	3.5 6	4.0 0	3.7 5	2.0 0
Transdisciplinary Seminar on Research: Challenges of Interdisciplinarity and Stakeholder Engagement (ETHZ VVZ 701-0015-00L)	0*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Writing a Post-doctoral Grant	15	3.5 7	3.5 0	3.5 7	3.5 7	3.6 4	3.6 4	3.7 1	3.6 4	1.9 3

* No PSC Evaluation form was used

Outlook

The PSC PhD Program in Plant Science remains one of the largest in its field, offering students access to (a) transferable skills and competencies courses to enhance employability and career perspectives, as agreed in the Lisbon strategy and following the Research Development Framework (Vitae) competency matrix as well as (b) multidisciplinary courses on research topics, from molecular biology to ecosystem research.

In 2024, the PSC will continue focusing on expanding courses in the field of digital skills and competencies in the field of doctoral training. In spring 2024 this work will be completed. All new courses will then be carried out once and included in the curriculum. An focus will be on offering training in machine learning and deep learning (preparation for a summer school in 2025) and a workshop for all doctoral students of Life Science Zurich Graduate School on: Doctoral Student Experimenting Labs: Explore the responsible use of AI in generating scientific texts, images, audio and code (1 ECTS).

RNA Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	33
UZH	5
ETH	16
Other affiliation	12
Track I students	23
Track II students	10
Female students	23
Male students	10
International students	27
Swiss students	6
Program drop-outs	0
Completed PhD	8
Program alumni	45
Faculty members	26

Recruitment

Recruiting statistics	December22	July 2023	November 23
Complete applications	20	16	40
Invited candidates	6	5	6
Drop-outs before interview	0	1	0
Free slots (XX priority program)	4	9	4
Matches	4	1	1
Candidates without matches	2	1	2
Decision against program	1	0	0
Rejected candidates	0	2	2
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	1	2	1

Finances in CHF

	Income	Expenses
Balance as of January 1	46349.75	
Income		
ETHZ		
UZH	3770.00	
Fees		
Other		
Expenses		
Salaries program		
Social benefits		
Recruitment December 1 (Feb2023)		4326.10
Recruitment July 1 (Sep 2022)		4629.40
Program activities (retreat, symposia, etc.)		782.50
Overhead		
Total		
Balance as of December 31	40381.75	

Program Activities

- **NCCR RNA & Disease Seminar Series 2023**

there is a PhD Luncheon with the speakers at the day of the Seminar

Apr 2023 Maria Carmo-Fonseca – Instituto de Medicina Molecular, University of Lisbon, Portugal

May 2023 Anna Marie Pyle – Yale University, New Haven, USA
Claudia Höbartner - University of Würzburg, Germany

October 2023 Don Cleveland -University of California, San Diego, USA
Joseph Puglisi - Stanford University, Stanford, USA

November 2023 Thomas Cooper - Baylor College of Medicine, Houston, USA

- **Swiss RNA Workshop 2023, January 27**

Bern, Switzerland

- **7th Annual NCCR Retreat 2023, January 30 – February 1**

Kandersteg, Switzerland

- **in-person recruitment; dinner with PhD Students for PhD applicants**

September 2023, Zurich

- **Autumn Semester 2023**

RNA Biology Lecture Series I Bern: Transcription, Splicing, alternative splicing & RNA editing, Nonsense-mediated mRNA decay & mRNA turnover, Long non-coding RNAs and chromatin regulation, Minor intron splicing & liquid-liquid

phase separation, RNP biogenesis & nuclear export, The ribosome structure & translation, The circadian clock - a functional setting to study RNA regulation, RNA localization, Coronavirus replication, Ribozymes & translation regulation

RNA Biology Lecture Series II Zurich: Micro RNA biogenesis & function, RNA and neurodegeneration, Epigenetic programming of genome remodelling in ciliates, Nucleic acid-based drugs, Micro RNA function in metabolism, CRISPR-Cas genome editing, Signal transduction & RNA, tRNA biology Vol. I, piRNA biogenesis & function, RNA processing code, tRNA biology Vol. II, Telomerase and telomeres

Outlook

- **NCCR RNA & Disease Seminar Series 2024**

there is a PhD Luncheon with the speakers at the day of the Seminar

February David Tollervey - University of Edinburgh, Edinburgh, UK

March Roland Beckmann - Ludwig Maximilians University, Munich

May Susan Gottesmann - National Institutes of Health, Bethesda,
USA

June Laura Ranum - University of Florida, Gainesville, USA
Rhiju Das - Stanford University, Stanford, USA

- **Swiss RNA Workshop 2024, January 26**

Bern, Switzerland

- **8th Annual NCCR Retreat 2024, January 29 – February 31**

Kandersteg, Switzerland

- **in-person recruitment; dinner with PhD Students for PhD applicants**

recruitment periods 2024, Zurich

- **Summer School 2024, August 26-30**

Saas-Fee, Switzerland

“Hete R ogeneity

I N chemistry,

Sp A ce and Time”

Science and Policy

The program in figures and numbers

Program statistics	as of December 31
Program students	65
UZH affiliation	16
ETH affiliation	46
Uni Basel affiliation	3
Other institutions	0
Track I students	28
Track II students	37
Female students	35
Male students	30
International students	50
Swiss students	15
Program drop-outs	8
Completed PhD	4
Program Alumni	76 (total until 2023)
Faculty members	19

Recruitment

Recruiting statistics	December 1 (2022)	July 1 (2023) 1	November 1 (2023)
Complete applications	11	20	25
Invited candidates	0	0	0
Drop-outs before interview	0	0	0
Free slots (0 priority program)	0	0	0
Matches	0	0	0
Candidates without matches	0	0	0
Decision against program	0	0	0
Rejected candidates	0	0	0
Change to other LSZGS programs	0	0	0
Gained from LSZGS programs	0	0	0

Finances

	Income	Expenses
Balance January 1	45'279.21	
Income	40'620	
ETHZ		
UZH		
Fees		
Other		
Expenses		
Salaries program		30'045.00 (Last)
Social benefits		Included above
Recruitment December 1		0
Recruitment July 1		0
Program activities (retreat, symposia, etc.)		9980.95
Overhead		reported elsewhere
Total		40025.00
Balance as of December 31		45874.21

Program Activities

The PSC has core infrastructure and personal resources to carry out and manage training for 500+ participants per year. Established training formats range from workshops, colloquia and lectures to summer schools, and face-to-face events to blended learning and e-learning formats that make our education highly scalable in number of participants. Didactical formats include case-study work, cognitive apprenticeship models, role play scenarios, simulations but also hands-on training in tools and methodology and experimentation that make our education highly successful in targeting learning objectives to the different target groups and demands of a multi-faceted academic education.

The PSC educational programs are embedded in several educational platforms that operate nationally and internationally and make the course offer of the PSC and of corresponding programs fully transferable: Life Science Zurich (www.lifesciences.ch), an international graduate school in life sciences, Swiss Plant Science Web (www.swissplantsciencweb.ch), housing 9 national PhD programs in Plant Sciences, Graduate Campus University of Zurich (www.grc.uzh.ch), bringing together all PhD students of the University of Zurich.

Students registered in the program in the reporting period, as of Dec 31

Year	TOTAL	University of Zürich	ETHZ	University of Basel	Other	Female	Male	National	International
2023	65	16	46	3	0	35	30	15	50

Since 2009, the PSC has pioneered the **PhD Program in Science & Policy**. Highly

specialized skills for the interface of Science & Policy are offered to the PhD students: they acquire tools for policy work, learn about policy sciences and attend international conferences at the interface of science and policy.

Module	ECTS
<p>Compulsory Activity: 4 out of 6 modules - Policy Workshops (offered by PSC, 2 ECTS each):</p> <ul style="list-style-type: none"> • Evidence-based Policymaking • Stakeholder Engagement • Communicating Science • Building Political Support • Contributing to Policy Action – Analysing and Communicating Risks and Uncertainties • Understanding Policy Evaluation • Scenario Building and Modelling • Introduction to Political Sciences <p>1 Lecture in Basics of Policy Sciences (i.e. Introduction to Political Sciences, 1 ECTS)</p>	9
<p>Elective Activities:</p> <ul style="list-style-type: none"> • Technical Courses: Intensive workshops on skills, methods and techniques • Transferable Skill Courses • PSC: Careers in Science or Policy, or both? (1 ECTS) • PSC: Scenario-building and modelling (1 ECTS) • PSC: System Thinking (1 ECTS) <p>Seminars, Colloquia</p>	3
<p>Other Elective Activities:</p> <ul style="list-style-type: none"> • Participation in international scientific symposium with own scientific contribution (oral or poster presentation, preferentially with science-policy section) (max. 1 ECTS) • Organization of PSC PhD Symposium, preferentially with science-policy section (max. 2 ECTS) <p>ECTS from the PSC offer of technical and scientific courses and Transferable skill courses.</p>	
	12

* with approval from principal investigator or thesis committee

Recruitment & interviews:

The PSC offers a fully implemented Track I admission channel (recruitment via Life Science Zurich Graduate School, LSZGS) following LSZGS guidelines that was used for 0 of the 13 PhD students recruited to the program in 2023.

For Track II admission channel (direct application to principal investigator, PI): We now request formal admission interview with future PhD students to be organized by PI. The interview should be conducted in the presence of at least one other principal investigator or faculty member and is confirmed with signed PhD Program interview protocol. This admission channel is used for 13 of the 13 PhD students recruited to the program in 2023.

Supervision:

The supervision is following the regulation of the partner universities and includes: doctoral agreement between supervisor and PhD students is set up 6 months after arrival of student. Set up of a research plan, establishing of thesis committee with internal and external experts, thesis committee meeting all 12 month and documentation of the

meeting and the feedback in the thesis committee meeting protocol. The protocol is part of the documentation that is sent to the doctoral program coordination. The coordination is communicating to the universities' management (dean of faculties) if thesis committee meetings are not carried out regularly. Establishment of these processes in 2021 we can currently report.

- 90% of all scheduled thesis committee meetings in 2022 finished in time and 10% delayed by 3 – 6 months at University of Zurich
- 90% carried out in time and 10% delayed by 3-6 months at ETH Zurich.
- 60% carried out in time and 40% delayed (or submitted late to DissGo) by 3-6 months at University of Basel

Revision of the ETH Zurich Ordinance of the Doctorate:

On January 1, 2022, the new ETH Zurich Ordinance on the Doctorate (<https://rechtssammlung.sp.ethz.ch/Dokumente/340.31en.pdf>) entered into force. The new Ordinance on the Doctorate applies to all doctoral candidates who enroll in a doctorate from January onwards. It also applies – with some transitional provisions – to those who have already been accepted for a doctorate.

Doctoral students at ETHZ are supervised by at least two people. The (1) official supervisor of the doctoral thesis (professor at the Department) and (2) the second advisor (an adjunct professor or Privatdozent/in, provided that (a) she or he works full-time at the ETHZ, and (b) both institutes have agreed). The second supervisor must be defined at the latest till submission of the doctoral plan. The doctoral administration (doktorat@ethz.ch) must be notified of the second advisor before the aptitude colloquium. Doctoral students have the right throughout the doctoral study to request another person to be available for additional professional or nonprofessional advice and support as needed.

Information about your doctoral studies at ETHZ and particular requirements of different ETHZ departments are available here:

<https://ethz.ch/students/en/doctorate.html>

<https://ethz.ch/en/doctorate/legal-basis.html>.

Template for registration of second supervisor is available here:

<https://ethz.ch/students/en/doctorate/second-advisor.html>

Departments D-USYS and D-BIOL

Doctoral Plan (replaces Research Plan):

A written research proposal, including the research plan and teaching requirements, is to be defined minimum 15 working days before the Aptitude Colloquium (D-USYS) and latest 10 months (D-BIOL) after registration. Should a thesis be carried out outside the ETHZ domain, it should be specified in the doctoral plan. The doctoral plan needs to be submitted to the aptitude committee and the doctoral studies panel (Deadline, see ETHZ MyStudies).

Aptitude Colloquium: The aptitude colloquium is an oral defense of the research plan to be held at the latest 12 months after registration at ETHZ (see MyStudies). The

defense lasts around 60 minutes including a presentation by the doctoral student (max 30 minutes) and a discussion between the doctoral student and the aptitude committee about the doctoral plan. The aptitude committee is composed of the chairperson and the Thesis Committee. The chairperson must be (a) a member of the doctoral studies panel (Doktoratsausschuss) or (b) a person appointed by the doctoral studies panel who must be a full or associate professor at ETHZ department. The PhD-Student is responsible to organize the aptitude colloquium, which can be conducted with partial or full physical presence of the aptitude committee and the doctoral student or entirely by video conference.

Information on the Doctoral Plan and Aptitude Colloquium:

<https://ethz.ch/students/en/doctorate/doktoratsplan.html>

<https://ethz.ch/en/doctorate/legal-basis.html>

Information for submission of the Doctoral Plan:

D-BIOL: <https://biol.ethz.ch/en/doctoral-studies/doktoratsplan---eignungskolloquium.html>

D-USYS: <https://usys.ethz.ch/en/doctorate.html>

Progress report (replaces Thesis Committee Meeting Protocol): All doctoral students must complete a progress reports. This is due after the appointment of a second supervisor. The PSC recommends involving external partners or supervisors. The progress report must be completed annually. The progress report forms the basis for the annual status conversation. The document must be kept for the entire duration of the doctorate. The duty of safekeeping is incumbent on the persons involved (doctoral students, dissertation supervisors, second advisors)!

Annual status conversation: All doctoral students must have an annual status conversation with the supervisor of their doctoral thesis. This is due after the appointment of the second supervisor. The supervisor of the doctoral thesis will determine the date. It consists of 2 parts and covers the following topics: Part 1 (Scientific Progress) and Part 2 (performance assessment, career and personal development).

The minutes of the status conversation must be kept for the entire duration of the doctorate. The duty to keep the minutes is incumbent on the persons involved (doctoral students, dissertation supervisors, second advisors)!

Exam Registration and Doctoral Examination: The final degree is conferred by your home institution. For your registration at the doctoral administration, have a look at:

<https://ethz.ch/students/en/doctorate/doktorpruefung.html>

PSC Trainings and Certifications

The PSC PhD Program “Science and Policy” is finished with a **PhD Program certification**. The certification is part of the diploma supplement of the doctoral certificate that is awarded by the University of Zurich, ETH Zurich or University of Basel. The certification includes a transcript of record of all PhD courses work carried out by the PhD student.

PhD education

Courses carried out in the reporting period

In the reporting period, the PSC organized / co-organized 6 courses. We report 120 course visits of PhD students.

Table 1: Number of courses carried out and number of course participations. Participants per University are summarized over all courses.

Year	Total Course Nr	Part. University of Zurich	Part. ETH Zurich	Part. University of Basel	Part. Other	Course Participations
2023	6	17	83	1	13	120

Table 2: Courses in the PhD Program in Plant Sciences and number of participants.

Date	Course	Speakers / case study supervisors	Participants
27.03. / 11.04.2023	Communicating Science	Jacopo Pasotti	ETH (10) UZH (2) UNIBAS (0) Other (0)
03.04. / 08.05.2023	Evidence-based Policymaking	Prof. Thomas Bernauer (ETH), Dr. Eva Lieberherr (ETH), Dr. Jerylee Wilkes-Allemann (BFH), Holger Gerdes (Ecologic Institute)	ETH (9) UZH (1) UNIBAS (0) Other (0)
13.11. / 11.12. / 15.12.2023	Building Political Support	Dr. Sarah Bütikofer, Global Governance (ETHZ), Dr. Sebastian Koehler (King's College London), Larissa Mettler (Effectiva), Marcel Falk (Swiss Academies of Sciences)	ETH (12) UZH (4) UNIBAS (1) Other (0)
24.05.2023	Science & Policy Talk: Prepare yourself and submit a successful science and policy application	Dr. Sophie Girardin	ETH (17) UZH (2) UNIBAS (0) Other (3)
13.09. / 04.10.2023	Introduction to Political Sciences	Dr. Sarah Bütikofer, Global Governance (ETHZ)	ETH (11) UZH (3) UNIBAS (0) Other (2)
04.10.2023	Science & Policy Talk: How ETH aims to strengthen the science-policy dialogue	Dr. Benedikt Knüsel (ETHZ)	ETH (24) UZH (5) UNIBAS (0) Other (8)

From 01.01.2023 to 31.12.2023, the evaluation of 4 of 4 courses were completed by the PSC directly: Participants rated these courses between 3 to 4 (= fully agree) in "I learned & benefited from this course" and several other aspects. Note: In the last column "The instructor moved at an appropriate pace" a different scale was used.

Course	Number of questionnaires	The course was well organized?	The topics covered met my expectations?	The instructor explained clearly?	Manual was helpful & useful also for future?	Good balance between theoretical & practical?	level of course was according to my needs?	working atmosphere was good?	I learned & benefited from this course?	The instructor moved at an appropriate pace? 1 = too slow/too fast, 2 = just right
Communicating Science	12	3.8 3	3.7 5	3.9 2	3.5 0	3.9 2	3.6 7	3.8 3	3.6 7	1.9 2
Evidence-Based Policymaking	9	3.7 8	3.3 3	3.8 9	3.8 9	3.6 3	3.3 3	3.8 9	3.6 7	2.0 0
Science and Policy: Building Political Support	10	3.9 0	3.6 0	3.6 0	3.8 0	3.8 0	3.6 0	4.0 0	3.8 0	2.0 0
Science and Policy: Introduction to Political Science	12	3.2 7	3.3 3	3.5 0	3.0 0	3.4 2	3.1 7	3.6 7	3.5 0	2.0 0

In 2023, the PSC offered 2 Science and Policy Talks focusing on Politics scholarship for academics – Prepare yourself and submit a successful science and policy application (May 24, 2023) and How ETH aims to strengthen the science-policy dialogue (October 4, 2023).

Feedback from all those involved over the past few years confirms that this program (i.e. in particular with the specialization Science and Policy) is a unique, interdisciplinary offer in Europe. We are convinced that by supporting this innovative program we have maintained and even improved the necessary quality in order to be an outstanding flagship program, especially at the science and policy interface for all participating partner universities.

Outlook

For 2024, the PSC is planning to offer 2 Science and Policy Talks per year focusing on Perspectives for science-based policy advice as a young researcher in Switzerland (June 19, 2024) or Working at the Interface of Science and Policy (date to be defined). The PSC will co-create and co-organize a workshop on Capacity Building Workshop on Effective Science-Policy Collaboration in Biodiversity Management together with the Blue-Green Biodiversity Research Initiative of EAWAG and WSL, and the World Food System Center, ETHZ.

Systems Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	76
UZH	18
ETH	58
Other affiliation	
Track I students	37
Track II students	39
Female students	32
Male students	44
International students	59
Swiss students	17
Program drop-outs	0
Completed PhD	10
Program Alumni	123
Faculty members	39

Recruitment

Recruiting statistics	December 1, 2022	July 1, 2023	November 1, 2023
Complete applications	73	60	89
Invited candidates	14	14	16
Drop-outs before interview	2	2	1
Free slots	14	16	7
Matches	4	3	3
Candidates without matches	5	9	12
Decision against program	2	0	0
Rejected candidates	59	46	73
Change to other LSZGS programs	2	2	0
Gained from LSZGS programs	1	1	0

Finances

	Income	Expenses
Balance January 1	103'934	
Income		
ETHZ	31'980	
UZH	0	
Fees	0	
Other	0	
Expenses		
Salaries program		20'470
Social benefits		3'188
Recruitment December 1		2'017
Recruitment July 1		1'978
Program activities (retreat, symposia, etc.)		8'247
Overhead		0
Total		35'900
Balance as of December 31		100'014

Program Activities

- (i) The compulsory introduction course "Systems Approaches in Biology", conducted by the Systems Biology program, took place on November 13-22, 2023. 18 Systems Biology PhD students attended the course, which was held on-site in Zurich.
The aim of this course is to experience and understand systems biology as a scientific process for hypothesis generation in complex and dynamic situations and networks.
- (ii) The advanced course "Computational Biology", conducted by the Systems Biology program, was held on June 12-23, 2023. 14 PhD students completed the course, of which 13 from the Systems Biology program and 1 from the Biomedicine program. The course is aimed at students with sufficient theory background for in-depth review of mathematical / computational approaches to systems biology problems, combined with practical case study performed in groups (based on project proposals by PhD students).
- (iii) The 11th Systems Biology PhD program retreat, organized by the Systems Biology PhD student community, took place on October 11-13, 2023, in Lugano (Ticino). Participants and speakers stayed at hotel "LuganoDante", a beautiful boutique centre in the middle of Lugano's old town, featuring a state-of-the-art conference centre. The retreat program included interactive sessions and workshops between the PhD students and the respective experts and was rounded off with social activities such as a boat tour and a wine and dine at scenic monte Salvatore.