Universität Zürich[UZH]

ETH Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Life Science Zurich

Life Science Zurich Graduate School Annual Report 2015

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1 Executive summary

Since Spring 2014 the Life Science Zurich Graduate School houses 15 joint ETH/UZH PhD programs and one MD/PhD Program (only UZH) and includes more than 542 faculty members and 1,548 doctoral students (as of December 31, 2015, including the students enrolled at the Universities of Basel and Berne via the Plant Science and the RNA Biology programs).

The trend of increasing numbers of applicants that had started in 2012 flattened in 2014 and more or less remained on that level in 2015 as we received 1'407 and 1'200 complete applications (2014: 1'400 and 1'159) for the two recruiting rounds. If we compare not only the past two to three years but focus on the entire time span from July 2006 to December 2015, we notice that the number of complete applications is fluctuating with a certain regularity. Differences (plus and minus) of 200 or more applications from one round to another are not unusual but all the same hard to explain. In general, we assume that many applicants prefer to apply towards the end of their MSc studies and therefore rather opt for the summer deadline. The absolute peak of 1'736 applications in December 2013 seems to be the exception that proves the rule. This observation is especially true for the applicants from India, who still form by far the biggest group. In fact, the number of applicants from the Indian Subcontinent is clearly higher for the July (422) than the December (312) deadline. The number of applications from Europe seems to be quite stable, although there are always minor ups and downs between the specific order of precedence. More important than the quantity of applicants is of course their experience and knowledge of the subject and it seems that we were a bit less successful to recruit the very best candidates to Zurich as we lost a considerable number of excellent students to other European universities in 2015.

40 transferable skill courses were offered via the LSZ GS in 2015 and we again received a very positive feedback from the students for most of them. Most courses were fully booked and in several cases we even had to reject interested students. In 2015, a quarter of the courses (10) was jointly offered by a PhD program or another university institution and the LSZ GS. In 2015 the program again included some methodological courses, such as the "Next Generation Sequencing" and "Flow Cytometry" courses that formerly had only been offered to students of few specific PhD programs, of which the Graduate School had taken over the organization and financing in 2014. As in past years the transferable skill course program comprised a mix of popular "longsellers" such as "Successful Start of a Professional Career" and "Project Management for Advanced Researchers" and some new courses like "Advanced Writing Skills in Doctoral Research".

In 2015, the LSZ GS continued to work on the new database, named DissGo that already mirrors most parts of the PhD process. Since early spring the PhD students have access to their own data and can ever since not only see which milestones (tasks and duties to be completed by them) are due next but also administrate their PhD by uploading their research plan, the meeting reports and course certificates. This relieves the program coordinators from a good deal of administrative burden and makes the whole PhD process much more transparent. Moreover, a lot of effort has been invested to make DissGo user-friendlier and the system is now ready to be rented to other Graduate Schools or university bodies. All this continued progress has only been possible thanks to the unstinting funding of the Graduate Campus of the University, the Faculty of Science (UZH) and the Department of Biology (ETH).

Although ETH and UZH re-confirmed to generously fund the Life Science Zurich Graduate School with the same amounts in 2014-2016, all PhD programs and the LSZ GS struggle with shrinking budgets since the student number at the University of Zurich still increases continuously albeit moderately. The financial situation is still rather comfortable for most of the programs. However, as it is not known whether they can also rely on SUK funding beyond 2016 the Graduate School might soon have to renegotiate the agreement with its parent universities.

2 Introduction

The idea to found a graduate school that houses all the different PhD programs in the Life Sciences offered at the University of Zurich and the ETH Zurich came up in September 2005. On 8 December 2005 the Life Science Zurich Graduate School was officially launched and became an autonomous branch of the Life Science Zurich Initiative. The LSZ Graduate School (LSZ GS) now consists of sixteen highly competitive PhD programs. Thanks to a strong teaching curriculum and a clear mentoring system these programs 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 Life Sciences programs. 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 world-wide in order 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

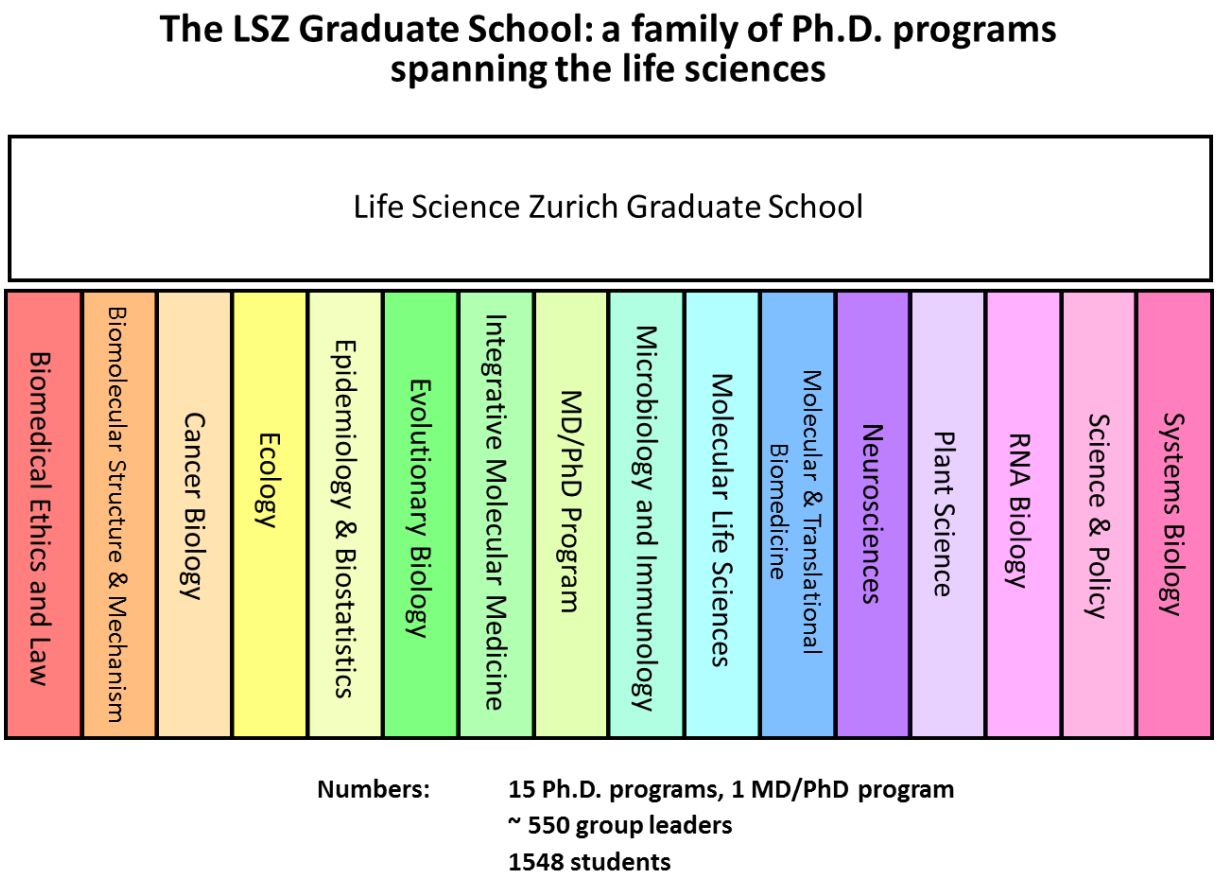

Figure 1: Chart of the LSZ Graduate School PhD programs

2.2 Strategy and products of the LSZ GS

The major units of the LSZ GS are:

a) LSZ GS steering committee (program directors from each PhD program)
b) PhD programs
c) Graduate School office: administration

Table 1: Roles and Responsibilities of the LSZ GS units

Unit	Roles and Responsibilities
LSZ GS steering committee	• 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 skill curriculum • Identification and development of joint funding initiatives
PhD programs	• 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 flights and accommodation for interview candidates from abroad
Graduate School office	• Increasing visibility of the PhD programs world-wide • Advertising the graduate school and its recruitment procedure (advertisements in Nature, 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 web tool and the transferable skill courses • Development and maintenance of the LSZ GS website 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 *independent* 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 website) 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 LSZ initiative • Exchange and collaboration with other graduate schools, both in and outside of Zurich

2.2 a) LSZ GS Steering committee and participating PhD programs

Since May 2014, the Life Science Zurich Graduate School comprises fifteen PhD programs and one MD/PhD program. Each program is presided by a director, who generally represents the program in the steering committee (see list below). In 2015, this steering committee met twice in order to decide on the strategic orientation and development of the Graduate School. Since May 2014 Prof. Stephan Neuhauss, Institute of Molecular Life Sciences (UZH), presides the LSZ GS as chair and Prof. Eilika Weber-Ban, Institute of Molecular Biology and Biophysics (ETH) as vice-chair.

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)
Biomolecular Structure and Mechansim (BSM)	Prof. Raimund Dutzler (Institute of Biochemistry, UZH)
Cancer Biology	Prof. Josef Jiricny (Institute of Molecular Cancer Research, UZH)
Ecology	Prof. Owen Petchey (Institute of Evolutionary Biology and Environmental Studies, UZH)
Epidemiology & Biostatistics	Prof. Torsten Hothorn (Institute of Social and Preventive Medicine, UZH) Prof. Milo Puhan (Institute of Social and Preventive Medicine, UZH)
Evolutionary Biology	Prof. Carolus van Schaik (until end of 2015) (Anthropological Institute, UZH)
Integrative Molecular Medicine (imMed)	Prof. Thierry Hennet (Institute of Physiology, UZH)
MD/PhD Program	Prof. Adriano Aguzzi (Institute of Neuropathology, UZH) Prof. Alexandra Trkola (Institute of Medical Virology, UZH)
Microbiology & Immunology (MIM)	Prof. Leo Eberl (Institute of Plant Biology, UZH) Prof. Annette Oxenius (Institute of Microbiology, ETH)
Molecular Life Sciences (MLS)	Prof. Michael Hottiger (Institute of Veterinary Biochemistry and Molecular Biology, UZH)

Program	Director
Molecular and Translational Biomedicine	Prof. Christian Wolfrum (Institute of Food, Nutrition and Health, ETH)
Neurosciences (ZNZ)	Dr. Wolfgang Knecht (Neuroscience Center Zurich, UZH/ ETH)
Plant Science (PSC)	Prof. Samuel Zeeman (Institute of Agricultural Science, ETH)
RNA Biology (RNA)	Prof. Frédéric Allain (Institute of Molecular Biology and Biophysics, ETH)
Science and Policy (previously Plant Sciences 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 are in charge of day-to-day affairs, normally also participate in steering committee meetings, although without voting rights. 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]	Michelle Heimgartner (Institute of Biomedical Ethics, UZH)
Biomolecular Structure and Mechanism (BSM)	Sabine Marty (Institute of Biochemistry, UZH)
Cancer Biology	Dr. Eveline Bergmüller Daniela Engler (until July 2015) Bettina Rausch (Institute of Molecular Cancer Research, UZH)
Ecology	Dr. Philippe Saner (until July 2015) Dr. Debra Zuppinger-Dingley (since July 2015) (Institute of Evolutionary Biology and Environmental Studies, UZH)
Epidemiology & Biostatistics	Dr. Eva Furrer (Institute of Social and Preventive Medicine, UZH)

Program	Administrator
Evolutionary Biology	Dr. Tony Weingrill (Anthropological Institute, UZH)
Integrative Molecular Medicine (imMed)	Dr. Christina Giger Heidi Preisig (ZIHP, UZH)
MD/ PhD Program	Jacqueline Wiedler (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)
Molecular and Translational Biomedicine (MTB)	Niña Reichert (Competence Center Personalized Medicine, UZH/ETH)
Neurosciences (ZNZ)	Nadia Mouci Menard (Neuroscience Center Zurich, UZH/ETH)
Plant Science (PSC)	Dr. Sandrine Gouingené (since summer 2015) Dr. Melanie Paschke Dr. Carole Rapo (Institute of Plant Science, ETH)
RNA Biology (RNA)	Isabelle Allen (Institute of Molecular Biology and Biophysics, ETH)
Science and Policy	Dr. Andrea Pfisterer (until summer 2015) Dr. Luisa Last (since summer 2015) (Institute of Plant Science, ETH)
Systems Biology	Sibylle Meneghetti (Department of Biosystems Science and Engineering, ETH)

2.2 b) Graduate School office

Since 1 April 2006, the Graduate School has its own administrative office. Dr. Susanna Bachmann is employed on a part-time basis of 35% and attends the day-to-day business of the LSZ GS. Since June 2011, Helen Stauffer is working as assistant for Life Science Zurich. She dedicates about 25% of her employment to the LSZ GS.

3 Activities

3.1 Recruitments

For both recruitment rounds in 2015, applicants of the Indian subcontinent (India, Pakistan and Bangladesh) formed the biggest group (approximately 2/7 of all applicants for the July and ¼ for the December deadline), followed by students from Italy, Germany, China and Iran. For a detailed overview of the applicants' nationality please see Appendix 1.

Table 4: Applications per PhD program in 2015

Complete applications of LSZ GS per PhD program			
	1 Dec. 2014	1 July 2015	1 Dec. 2015
Biomedical Ethics and Law (med. Track)	1	12	4
Biomolecular Structure and Mechanism	62	43	51
Cancer Biology	224	245	224
Ecology	51	101	59
Epidemiology & Biostatistics	41	45	72
Evolutionary Biology	24	37	17
Integrative Molecular Medicine	35	43	22
Microbiology and Immunology	196	222	179
Molecular Life Sciences	185	219	209
Molecular and Translational Bio-medicine	55	63	57
Neuroscience	138	178	164
Plant Science	75	90	72
RNA Biology	7	40	20
Science and Policy	11	24	25
Systems Biology	54	61	69
TOTAL	**1,159**	**1,423**	**1,244**

After the absolute peak of 1,733 applications in December 2013, the numbers of applications dropped considerably in 2014 to 1'400 (1 July 2014) and 1,159 (1 December 2014) and rose again in the following year to 1,423 (1 July 2015) and 1,244 (1 December 2015). Such up and down movements are not new but we are still unsure about the reasons. A possible explanation could be the general fluctuation of applications from the Indian sub-continent (Bangladesh, India, Pakistan). Traditionally, a majority of applicants from this region of the world tends to apply to the summer deadline. It might also

be possible that the acceptance of stricter immigration regulations (mainly the restriction of the free movement of persons within Europe) by the Swiss sovereign in February 2014 has come into play and makes Zurich less attractive for PhD students. However, such an assumption is of course difficult to prove.

Although the Graduate School numerically obtains plenty of applications, we still fail to meet our goal of inviting two students for each open position (109 slots and 149 applicants for the July and 114 positions and 135 applicants for the December deadline). This is due to the fact that on the one hand the quality of applications varies considerably and on the other our budget does not allow us to invite dozens of candidates from overseas. If one takes into account that many renowned European universities have set up PhD programs and Graduate Schools in recent years, it is understandable that we have difficulties to recruit sufficient candidates from Europe. This means that we still have to work on our marketing strategies and to find appropriate ways how to make the LSZ GS better known among Master graduates and encourage them to apply.

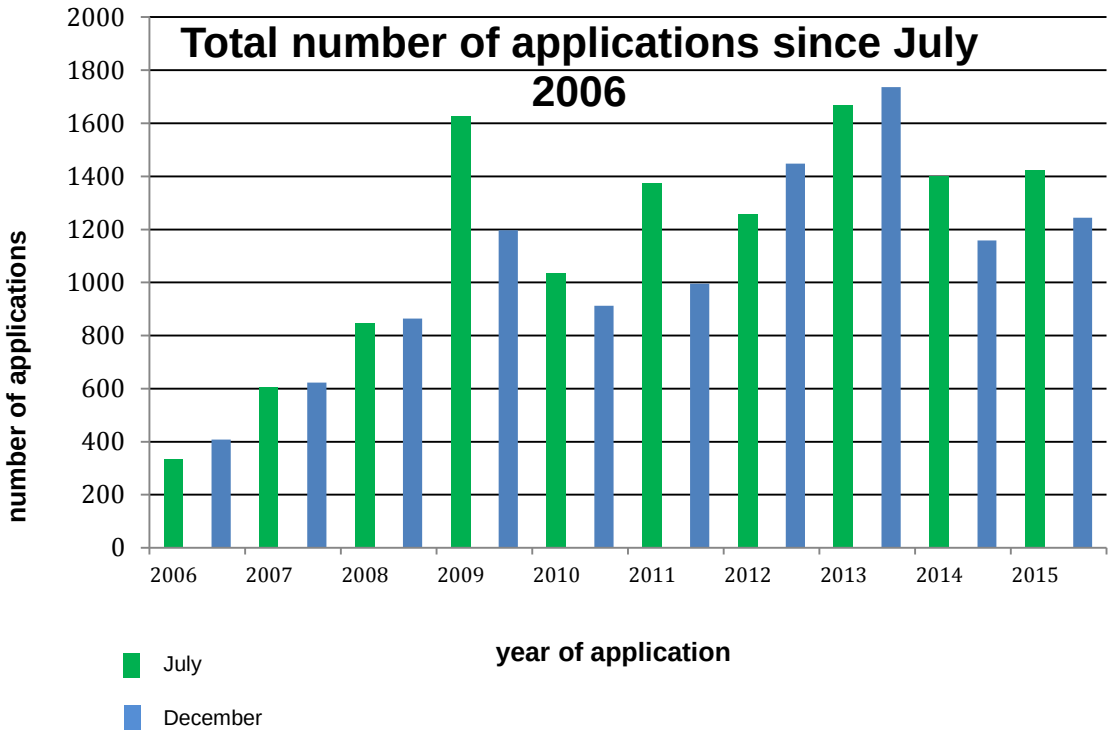

Figure 2: Total number of applications since 1 July 2006.

In 2015, about 52% of the applicants were male and 48% female, which conforms to the ratio of 2014 (also 52% versus 48%). As for the past recruitment rounds, we invited more female than male candidates for an interview, the ratio was nearly 2:1 in July but 6:5 in December. Most of the applicants learned about the program from the internet (from our own web page or ads on different recruiting websites). As in former years, applicants also learned about the program from friends who had once applied to the LSZ GS or who are performing their PhD in one of our programs. The poster as a recruiting continues to loose importance compared to the other marketing tools. In fact, we have reduced the number of distributed posters but have not yet given up completely. For the first time we have set up a recruitment page on LinkedIn but it is still too early to draw final conclusions on how effective this tool is for us.

Following review of the written applications by the admission committees of the different programs, the top ~14% (December) to 13% (July) of applicants were invited to Zurich for an interview and lab visits. About three fifth of the candidates present at the interview were offered a position in Zurich,

underscoring the fact that a selection based solely on written applications would not be sufficient to insure a high quality student body. In the winter as well as in the summer round roughly 10% of the applicants who have been offered a position in Zurich rejected this offer. The drop-out rate ranged between 15-18%, which corresponds to the average of former recruitment rounds (15-20%). Although a matching rate of around 52% is quite a bit lower than in former years, it is still satisfying. Many of the students who turned down our offer eventually joined other very strong programs in Europe or in the US.

Table 5: Recruiting statistics in 2015

LSZ GS recruiting statistics			
	Dec. 1, 2014	July 1, 2015	Dec. 1, 2015
Complete applications	1,159	1,407	1,200
Invited candidates	160	183	186
Drop-outs before interview	24	34	*
Candidates at interview	135	149	*
Free slots	114	109	116
Matches	70	77	*
Candidates without matches	41	45	*
No list handed in	9	1	*
Decision against LSZ GS	10	10	*
Rejected candidates	4	10	*

*data will be included in 2016 annual report

In December 2014, we managed to fill 61% of the open positions whereas with 71% the match was more successful in July 2015. However, these rates correspond to the average of the last years. Although the matching process is satisfactorily, we are aware that it is a very sensitive part of the whole recruitment process. Should in the coming years the number of offered positions further increase, we might have to think of an alternative organization of the recruitment process, since logistically it will be very difficult to have many more than 150 applicants in Zurich at the same time.

Because not all open positions can be filled during a given recruiting round, all programs also accept to a greater or lesser extent "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 especially pronounced in some of the younger programs, which cannot yet attract enough track I students. Applications of track II students are administrated directly by the different programs.

3.2 Data systems and website

The student database DissGo (for “Dissertation Go!”) continued to make headway in 2015. In spring, the PhD students got access to the database and they can now administer the data concerning their individual PhD process by themselves. Whereas new PhD students normally use the database from the very beginning of their studies, more advanced students are more reluctant to change to the online tool, especially if they are already very advanced in their PhD and would have to enter a lot of data in order to mirror the whole PhD process in the system. Although most of the milestones are now represented, there are still some important steps of the PhD missing, such as the entire teaching obligations, the admission by the universities and the entire conclusion of the PhD. We hope to integrate the missing milestones soon, however, it is more important that the different administrative offices involved in the PhD process recognize the benefit of DissGo and start to use it more actively in order to minimize parallel processes. After the launch of DissGo for the PhD students we also gave access to the PIs in fall 2015. In contrast to the PhD students, the PIs do not (yet) have a very obvious benefit from the database, except for the overview of their different thesis committee roles and committee meetings, which are due or overdue.

Thanks to DissGo and the coordinators who maintain the data in the system the Graduate School has now for the first time retrieved fairly reliable numbers of principle investigators and doctoral students. There is much more useful data in the system and as soon as export functions are available, we can start to use this data to gain better insights regarding the different deadlines, the duration of the PhD, preference of offered courses etc.

Moreover, a lot of work has been invested to make the database user-friendlier and more clearly arranged and the system is now ready to be rented to other Graduate Schools or university bodies. Especially so, as the agreement with our external partner “Glowbase” has been signed in summer and the ownership of the existing and prospective parts of DissGo is now clearly defined.

All this continued progress would never have been possible without the generous support of the Graduated Campus, who had awarded our second application for "cooperative quality assurance" with CHF 30,000 in summer 2015. In addition, the MNF as well as the D-BIOL each contributed with another CHF 10,000 to the development of the database. The LSZ GS used as much funds as possible from their regular budget and especially Dr. Philippe Saner from the Department of Evolutionary Biology and Environmental Studies/Faculty of Science as well as the school administrator dedicated a lot of time and efforts to expedite this complex and comprehensive project.

Less positive news can be reported from our application tool. Although the system is still much used and we would not be able to handle over 2,000 applications of each recruitment round without this useful and extremely timesaving tool, it became obvious during the past year that we are facing the same problems as with our web pages. The used PHP and Typo3 versions are no longer supported and it will probably not be possible to easily change the whole system to more recent versions. What this will entail in detail for the future of the application tool is not yet clear at this time point. However, we will try to find as quickly as possible a convincing and cost-effective solution. A desirable procedure would be to integrate the application tool rather sooner than later in DissGo.

Shortly after moving our web pages to a newer version of Typo3, the new content management system of the University of Zurich was made available. We thus started to re-program and re-design our web pages according to the suggestions of the working group formed by several program coordinators who had elaborated a new design and re-arranged the content of the pages. It was planned to go online after the deadline of 1 December 2015, however, as some problems still remained unsolved by then, we had to postpone the launch of the new web pages to spring 2016.

3.3 Transferable skills courses

Besides the centralization of the application process, one of the main motivations to found the Graduate School was to offer common courses, which are not related to the specific scientific focus of a program. In 2015, the LSZ GS offered in total 40 courses, 10 of them were organized by a program (or another institution such as the Graduate Campus or the LSZ Young Scientist Network) but were open for all students of the LSZ GS. 8 courses were offered by in-house staff and thus not liable to costs. The program administrators agreed on the following policy for joint courses: the organizing program obtains a quarter of the seats for its own students, if the LSZ GS bears the entire course costs. Should the program need more seats, the LSZ GS reduces its financial support accordingly.

Whereas the programs had at the beginning offered very similar courses via the LSZ GS, mainly statistics, ethics and scientific writing, the variation of the topics increased in the past years. However, the program currently includes several courses that, strictly speaking, cannot be subsumed under the category “transferable skills” as they are to a great extent methodological courses, such as the “Next Generation Sequencing” course, the “Flow Cytometry” and the “Matlab” course. These courses are in high demand and it is indisputable that they should be offered to the PhD students of the LSZ GS but should the inclusion of such courses increase in the future we might have to think of renaming the course program.

As in past years, most of the courses were completely booked or even over-booked, only one course had to be cancelled because of a lack of interest of the students. Students really seem to appreciate and take advantage of attending courses that are not directly linked to their research field, but help them to prepare for future leadership functions.

Table 6: Courses offered by the LSZ GS January to December

Course Name	Facilitator	Date	Joint	Number of Participants
Communicate - Negotiate - Resolve	Rob Thompson	21 – 22 January		12/12
Successful Start of a Professional Career	Monika Clausen	26 – 27 January		16/16
Competency Awareness	Monika Clausen	23 - 24 February		11/12
BIO 680 NGS Practical Course	Lucy Poveda	24 – 27 February		8/8
Teaching at University: From a Burden to a Benefit to your Career	Claire Ribrault	25 February & 18 March		20/20
Visualizing your Research	Marina Bräm, Tom Reed, Juanita Schläpfer	2 March & 31 March	PSC	10/10
Logic and Reasoning for Scientists	Malte Engel	3 – 4 March		15/16
Scientific Writing	Sabine Schrimpf	12, 17, 19 & 24 March		16/20
Comprehensive Course in Flow Cytometry	Vinko Tosevski, Florian Mair	23 – 26 March		18/20
Advanced Writing Skills in Doctoral Research	Julia Staykova	8 April		25/25
Team Growth (PI-Training I)	Monika Clausen	17 April	MLS	13/15
BIO 680 NGS Practical Course	Lucy Poveda	21 – 24 April		8/8
Career Cornerstones - Active Career Building in Academia and Business	Monika Clausen	27 – 28 April		12/12

Course Name	Facilitator	Date	Joint	Number of Participants
Project Management - Advanced Stage	Andrea Degen	7 & 19 May		15/15
Team Growth (PI-Training II)	Monika Clausen	11 May	MLS	11/15
Ethics (Neuroscience)	Jackie Leach Scully	18 – 20 May	ZNZ	7/10
Supervising Students	Markus Weil, Daniel Kiper	18 May & 11 June		12/12
Self-Marketing Skills - Improve Your Interactional Performance	Monika Clausen	8 – 9 June		10/10
Dealing with the Publication Process	Philipp Mayer, Christian Fuhrer, Melanie Paschke	12 & 15 June	PSC	10/10
BIO 675 RNA-Seq NGS Course	Lucy Poveda	23 – 26 June		8/8
Statistics	Christoph Luchsinger	29 - 30 June, 2 - 3 July & 7 - 9 July	ZNZ	14/10
RICA Conference	Philippe Saner	1 July	ECO	4/4
Scientific Writing	Sabine Schrimpf	2, 7, 9 & 14 July		20/20
Matlab for Scientists	Peter Horvath	7 – 9 September		12/12
The Successful Start of a Professional Career	Monika Clausen	17 – 18 September		16/16
Filmmaking for Scientists	Samer Alasaad	21 – 25 September		15/15
Competency Awareness	Monika Clausen	28 – 29 September		12/12
Make The Most Out of Your Science – Patenting and Spin-Off Workshop	Wolfgang Henggeler	19 – 20 October		13/20

Course Name	Facilitator	Date	Joint	Number of Participants
Flow Cytometry FACS Comprehensive Course, BIO 629	Vinko Tosevski, Florian Mair	19 – 23 October		11/11
Self-Marketing Skills	Monika Clausen	4 – 5 November		12/12
Improve your Time and Self-Management Skills	Daniel Burri	3 & 12 November		15/15
Flow Cytometry FACS Introductory Course, BIO 632	Vinko Tosevski, Florian Mair	9 – 12 November		10/10
Writing a Post-Doctoral Grant	Andrea Degen, Melanie Paschke	19 – 20 November	PSC	8/8
BIO 675 RNA-Seq NGS course	Lucy Poveda	24 – 27 November		8/8
Supervising Students	Markus Weil, Daniel Kiper	20 November & 4 December		11/11 6/10
Ethical Issues in Biological Research, Genetics and Genomics	Anna Deplazes	24 November & 1 December	CB	20/20
Understanding Intercultural Differences	Monika Clausen, Henriette Ullmann	3 - 4 December		11/12
Scientific Visualisations using R	Jan Wunder	7 – 8 December	PSC	8/8
Scientific Writing (Fall 2015)	Sergio Gloor	25 November, 2, 9 & 16 December 26 November, 3, 10 & 17 December	GRC & MLS	40/40

4 Assessment by Advisory Board

On 29 and 30 October the advisory board paid the LSZ GS a fourth visit. Sally Leevers (Cancer Research UK, London Research Institute, UK), Mariken de Krom (Rudolf Magnus Institute of Neuroscience, UMC Utrecht, NL), Isabel Roditi (University of Berne) and, as a new member, Pim Martens (Maastricht University, NL) assessed the PhD programs in Biomolecular Structure and Mechanism, Evolutionary Biology as well as Systems Biology. Each visit lasted half a day and the advisory board was not only given the opportunity to talk to faculty members but also to program students. On the first morning of the visit the administrator of the LSZ GS met with the board to give them an update on the current situation of the LSZ GS and to discuss which of their recommendations from the last visit were already implemented.

All in all, the board was satisfied with the progress the Graduate School had made and it found the three PhD programs that were reviewed to be well organized. The board this time did not address any specific areas for improvement for the LSZ GS but recommended to use DissGo also for collecting "destination data" and input from the students. A weakness that was addressed is the confusion among students and some PIs about the distinction between programs, departments, graduate school and graduate campus. Likewise students are still struggling to find some key information. In contrast to the board's suggestion to provide all new students with a leaflet, we prefer to include this information on an overview page in DissGo. This could also contribute to make students and PIs more aware of the database – another area of improvement detected by the board. The whole report can be found in the Appendix 2.

5 On-going projects

The LSZ GS plans to further improve the student database DissGo at least until mid 2016, if sufficient funding is available. Bigger projects to tackle are the mirroring of the curriculum of each individual PhD program, as well as the import and export of data. Ideally, the entire teaching obligations can also be included in DissGo in 2016. In addition, many minor adaptions and improvements still have to be implemented. All in all the database is by now a very useful tool and it would be good for the entire project, if we could now find other PhD programs or Graduate Schools that are interested in renting DissGo and (co-)sponsoring the programming of further milestones or new features we could also benefit from.

As announced already last year, the LSZ GS can introduce an introductory lecture on "scientific integrity" - thanks to the support of swiss universities (SUK). The progress of the project was somewhat slow mainly because the precise wording of the "Declaration of Good Scientific Practice" drafted by an expert in ethics entailed some controversial discussions at the program directors' conferences. After introducing some amendments we now have a version accepted by everyone and the first two-hour lecture will be held mid 2016. Students should get some basic insights in the topic of "scientific integrity" and they will also get acquainted with the different courses, workshops and seminars that are offered within or outside the LSZ GS so that they can gain more knowledge of the subject, if they wish to do so or if required by their PhD program. It is not yet entirely clear whether the introductory lecture will be compulsory for the students of all PhD programs although the advisory board had strongly recommended the LSZ GS to ensure that all PhD students receive training in scientific integrity in its 2013 report.

6 Finances

As in past years, the directors' conference worked out a distribution key (see below) to allocate the funds the LSZ GS obtained from ETH (CHF 300,000) and UZH (CHF 400,000). Since 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 fix allowance besides the per capita contribution. In order not to penalize the bigger programs, the allowance is slightly graded (CHF 5,000 for programs with up to 10 students, CHF 10,000 for programs with 10-20 students and CHF 14,000 for programs with more than 20 students). As in the years before the LSZ GS financed only students until the end of their 4th year, in order not to encourage a long duration of the PhD. 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.

Besides the PhD programs in Biomedical Ethics and Law as well as the MD/PhD program that are financed via the Medical Faculty, the PhD program in Epidemiology & Biostatistics is also not included in the above mentioned distribution key. In 2015 this program was directly supported by the Faculty of Science because most of the research groups are affiliated with the UZH. As of 2016, the LSZ GS will have to find a way, to accommodate this program in the distribution of funds without drastically reducing the financial support of the other programs. As the student body is still growing, for most programs the funds have decreased over the past years and it is clear that a further reduction will be problematic for several of them. The RNA Biology program obtains financial support via the NCCR 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.

In 2015, the LSZ GS prepaid accommodation, travel costs as well as the general recruiting costs, such as publicity, provisions and public transport. Apart from the publicity, the individual PhD programs are billed for the entire recruitment costs, once it is clear which program the recruited students will join.

Annual Account LSZ Graduate School 2015 G-74010-03-01

Earnings 2015	**CHF**
Contribution UZH / Bologna / carry-over 2014	44,350
Contribution ETH/ carry-over 2014	116,180
Contribution MNF DissGo	10,000
Contribution D-BIOL DissGo	10,000
Contribution Graduate Campus DissGo	30,000
Scientific Integrity (SUK)	18,000
Reimbursement recruitment costs PhD-programs (Sep. 14 & Feb. 15)	210,537
Annual support MD/PhD program	3,000
Surcharges courses	1,285
Total earnings	**443,352**

Costs 2015	**CHF**
Recruitment rounds (Feb. & Sep. 15)	201'837
Transferable skills course program	76,489
Scientific Integrity	1,186
DissGo database	49,032
Computer-Services application tool	8,193
Marketing (ads, listings, poster)	16,463
Salary administrator	45,210
Advisory Board	11,046
Overhead	9,378
Social security	9,580
Total costs	**428,414**

Balance as of 31 December 2015	**14,938**

Life Science Zurich Graduate School: Recruitment costs 2015 in CHF

	February (135 Stud.)	**September (149 Stud.)**
On-site costs	**CHF**	**CHF**
Public transport	3,483	3,844
Student party	7,346	8,894
Lunch vouchers	3',706	4,017
Snack	6',129	5,982
Total	**20,664**	**22,737**
Costs per student	153	152

	February (109 Stud.)	**September (128 Stud.)**
Travel & accommodation costs for external students	**CHF**	**CHF**
Accommodation	31,557	35,899
Travel costs	42'103	36,416
Total	**73'660**	**72,315**
Costs per student	675	564

Total costs recruitment	**94,324**	**95,052**

Distribution Key Financial support of ETH and UZH in 2015

Annual contribution ETH: 300,000 CHF Annual contribution UZH: 400,000 CHF Total contribution: 700,000 CHF	Allowances: up to 10 students: CHF 5,000 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	310 CHF per student	Total amount	Total rounded
Biomedical Ethics and Law		0						
Biomolecular Structure and Mechanism	14,000	37	31		68	21,080	35,080	35,100
Cancer Biology	14,000	18	107		125	38,750	52,750	52,800
Ecology	14,000	14	39		53	16,430	30,430	30,500
Evolutionary Biology	14,000	1	89		90	27,900	41,900	41,900
Integrative Molecular Medicine	14,000	3	117		120	37,200	51,200	51,200
MD/PhD								
Microbiology & Immunology	14,000	75	90		165	51,150	65,150	65,200
Molecular Life Sciences	14,000	65	102		167	51,770	65,770	65,800
Molecular and Translational Biomedicine	14,000	46	3		49	15,190	29,190	29,200
Neuroscience	14,000	86	112		198	61,380	75,380	75,400
Plant Science	14,000	47	31		78	24,180	38,180	38,200
RNA Biology	0	1	1	2	2	620	620	700
Sciences and Policy	14,000	20	20		40	12,400	26,400	26,400
Sytems Biology	14,000	43	11		54	16,740	30,740	30,800
TOTAL CHF	**168,000**	**456**	**753**	**2**	**1,209**	**374,790**	**542,790**	**543,200**

Life Science Zurich Graduate School 156,800
(= approx. 1,209 (number of PhD students) x 129.50 CHF (amount per student))

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

7 Outlook

It looks as if the financial situation of the Graduate School and its programs could get a bit tenser in future years. Most of the PhD programs as well as the LSZ GS again received less money than in 2014 and the years before and until fall 2016 it will not be entirely sure whether swiss universities (formerly SUK) will continue their support for another 2 or 3 years. For some programs the financial situation is thus becoming critical and also the Graduate School might face some problems, especially regarding the costs for fixing the old or programming a new application tool and the general maintenance costs of the two database systems.

The Graduate School should take care of this situation and start to look for possibilities how the funding can be secured in the future. Since the number of the doctoral students affiliated with ETH remained surprisingly stable in contrast to the UZH PhD student body that still continues to increase, the LSZ GS should probably first get together with the authorities from the University of Zurich. The support of the UZH should at least be increased to an extent that the per capita support equals again the support offered by ETH. Ideally, the Graduate School will manage to obtain not only funding from the Faculty of Science but also from the Faculty of Medicine where many of the UZH PhD students carry out their PhD. In addition, the LSZ GS should of course also look for other national and international funding sources.

Appendix 1: Statistics intake rounds

Table 1: LSZ GS Intake round July 1, 2015

Sex	Not invited	Invited	Total
Female	542	78	620
Male	604	62	666
Total	1,146	140	1,286
Knowledge of program			
Internet	729	62	791
Poster	28	5	33
Friends	427	94	521
Ad	38	3	41
Other	48	10	58
Nationality			
Afghan	1	0	1
Albanian	4	0	4
Algerian	4	0	4
American	10	4	14
Argentinian	1	0	1
Armenian	2	0	2
Australian	2	1	3
Austrian	11	5	16
Azerbaijani	1	0	1
Bahraini	1	0	1
Bangladeshi	12	1	1
Belgian	3	0	3
Belorussian	1	0	1
Beninese	1	0	1
Bolivian	1	0	1
Brazilian	9	2	11
Briton	14	2	16
Bulgarian	2	1	3
Cameroonian	4	0	4
Canadian	3	2	5
Chilean	1	0	1
Chinese	77	4	81
Colombian	6	3	9
Costa Rican	0	1	1
Croatian	6	1	7
Cypriot	0	1	1

Czech	3	1	4
Dane	2	1	3
Dutch	7	1	8
Ecuadorean	5	0	5
Egyptian	18	1	19
Estonian	6	2	8
Ethiopian	19	0	199
Filipino	6	0	6
Finn	3	1	4
French	9	5	14
German	51	31	82
Ghanaian	17	0	17
Greek	28	2	30
Hungarian	1	2	3
Icelander	1	2	3
Indian	265	2	267
Indonesian	4	1	5
Iranian	65	0	65
Iraqi	5	0	5
Irish	2	0	2
Israeli	1	0	1
Italian	84	14	98
Japanese	2	0	2
Jordanian	2	0	2
Kazakh	1	0	1
Kenyan	12	0	12
Korean	2	0	2
Latvian	1	1	2
Lebanese	14	2	16
Libyan	1	0	1
Liechtensteiner	1	0	1
Lithuanian	1	0	1
Malagasy/Madagascan	1	0	1
Malaysian	14	0	14
Mauritian	1	0	1
Mexican	14	1	15
Moldovan	1	0	1
Mongolian	1	0	1
Montenegrin	1	0	1
Nepalese	14	0	14
Nigerian	31	0	31
Nigerien	1	0	1
Omani	1	0	1
Pakistani	35	1	36
Palestinian	1	0	1
Pole	12	6	18
Portuguese	20	3	23

Romanian	7	0	7
Russian	11	2	13
Rwandan	3	0	3
Saudi Arabian/Saudi	1	0	1
Scottish	1	0	1
Serb/Serbian	6	0	6
Singaporean	3	0	3
Slovak	5	2	7
Slovene/Slovenian	1	0	1
South African	3	0	3
South Korean	2	0	2
Spanish/Spaniard	20	4	24
Sri Lankan	2	0	2
Sudanese	9	0	9
Swede	6	1	7
Swiss	19	16	35
Syrian	2	0	2
Taiwanese	12	0	12
Tanzanian	3	0	3
Thai	4	0	4
Togolese	1	0	1
Tunisian	2	0	2
Turk	22	2	24
Ugandan	1	0	1
Ukrainian	6	1	7
Uruguayan	2	1	3
Venezuelan	2	0	2
Vietnamese	3	0	3
Yemeni	1	0	1
Zambian	1	0	1
Zimbabwean	6	0	6

Table 2: LSZ GS Intake round December 1, 2015

Sex	**Not invited**	**Invited**	**Total**
Female	542	78	620
Male	604	62	666
Total	1,146	140	1,286
Knowledge of program			
Internet	729	62	791
Poster	28	5	33
Friends	427	94	521
Ad	38	3	41
Other	48	10	58
Nationality			
Afghan	1	0	1
Albanian	4	0	4
Algerian	4	0	4
American	10	4	14
Argentinian	1	0	1
Armenian	2	0	2
Austrian	11	5	16
Azerbaijani	1	0	1
Bahraini	1	0	1
Bangladeshi	12	1	13
Belgian	3	0	3
Belorussian	1	0	1
Beninese	1	0	1
Bolivian	1	0	1
Brazilian	9	2	11
Briton	14	2	16
Bulgarian	2	1	3
Cameroonian	4	0	4
Canadian	3	2	5
Chilean	1	0	1
Chinese	77	4	81
Colombian	6	3	9
Costa Rican	0	1	1
Croatian	6	1	7
Cypriot	0	1	1
Czech	3	1	4
Dane	2	1	3
Dutch	7	1	8
Ecuadorean	5	0	5
Egyptian	18	1	19

Estonian	6	2	8
Ethiopian	19	0	19
Filipino	6	0	6
Finn	3	1	4
French	9	5	14
German	51	31	82
Ghanaian	17	0	17
Greek	28	2	30
Hungarian	1	2	3
Icelander	1	2	3
Indian	265	2	267
Indonesian	4	1	5
Iranian	65	0	65
Iraqi	5	0	5
Irish	2	0	2
Israeli	1	0	1
Italian	84	14	98
Japanese	2	0	2
Jordanian	2	0	2
Kazakh	1	0	1
Kenyan	12	0	12
Korean	2	0	2
Lebanese	14	2	16
Libyan	1	0	1
Liechtensteiner	1	0	1
Lithuanian	1	0	1
Malagasy/Madagascan	1	0	1
Malaysian	14	1	15
Mauritian	1	0	1
Mexican	14	1	15
Moldovan	1	0	1
Mongolian	1	0	1
Montenegrin	1	0	1
Nepalese	14	0	14
Nigerian	31	0	31
Nigerien	1	0	1
Omani	1	0	1
Pakistani	35	1	36
Palestinian	1	0	1
Pole	12	6	18
Portuguese	20	3	23
Romanian	7	0	7
Russian	11	2	13
Rwandan	3	0	3
Saudi Arabian/Saudi	1	0	1
Scottish	1	0	1
Senegalese	1	0	1

Serb/Serbian	6	0	6
Singaporean	3	0	3
Slovak	5	2	7
Slovene/Slovenian	1	0	1
South African	3	0	3
South Korean	2	0	2
Spanish/Spaniard	20	4	24
Sri Lankan	2	0	2
Sudanese	9	0	9
Swede	6	1	7
Swiss	19	16	35
Syrian	2	0	2
Taiwanese	12	0	12
Tanzanian	3	0	3
Thai	4	0	4
Togolese	1	0	1
Tunisian	2	0	2
Turk	22	2	24
Ugandan	1	0	1
Ukrainian	6	1	7
Uruguayan	2	1	3
Venezuelan	2	0	2
Vietnamese	3	0	3
Yemeni	1	0	1
Zambian	1	0	1
Zimbabwean	4	0	4

Appendix 2: Assessment Advisory Board

Advisory Board Review of Life Science Zurich Graduate School and PhD Programs in Systems Biology, Biomolecular Structure and Mechanism and Evolutionary Biology

October 2015

We (the advisory board, AB) found our visit well--organized and interesting, and enjoyed meeting with the various members of the graduate school and the three programs that we reviewed.
Overall, the graduate school continues to provide an important structure spanning the ETH and UZH for the recruitment, training and support of Life Science Zurich PhD students. The graduate school attracts high quality students from across the world, and provides the framework for them to receive first class training and research opportunities while carrying out their PhD research.

Below we have summarized our general comments relating to the graduate school, followed by those relating to the three programs that we reviewed.

- The AB appreciates that the way in which the graduate school is set--- up requires a careful balance between the school, the programs, the departments and the universities in terms of administration, training, student opportunities and staff and student commitments. The AB felt that the graduate school manages this balance very effectively, allowing sufficient flexibility while at the same time providing some minimum standards.
- The AB is pleased that the topic of research integrity is being taken seriously and that a new online course covering this will be available via the graduate school from the beginning of 2016. However, the topic is still not on the agenda of every program, see specific remarks per program.
- The program retreats remain a real highlight of the PhD programs' activities and are very popular with the students. We are pleased to see that the graduate school funding to the programs is used in this way.
- There continues to be some confusion among students and some PIs about the distinction between the programs, the graduate school, departments etc. Likewise students are still struggling to find key information via (well structured) websites and program information. Students on different programs suggested that it would be useful to provide all new (and current) students with a one page/short leaflet summarizing their obligations (what is required from them by whom and when) and where to find key information (including on training opportunities).
- Thesis committees are clearly much more established across the graduate school than when we first visited in 2009. In most cases it is the routine for the supervisor to leave the room for part of the meeting, though we did get the impression that sometimes this is not the case and that some PIs refuse to do this. In addition for two out of three programs reviewed at this visit, it seemed that the committee

members might all be very closely linked to the lab of the student. We also heard about people inviting themselves to be part of the thesis committees, which is not appropriate.

- The development of the new DissGo database/online system looks excellent. It should provide a really useful tool for students, PIs and administrators. At this stage students and PIs are not fully aware of DissGo and what they are required to record/view there, but this will improve as the system is introduced and embeds.
- The graduate school and programs might consider whether DissGo could be developed to collect 'destination data' on graduating students. It might also be used as a platform to collect input from the students.
- Track 1 recruitment continues to provide a highly valued student recruitment mechanism.
- The AB were pleased to hear about the supervisors course that was developed by the graduate school, and sorry to hear that this would not be continued. The AB hopes that training for supervisor will be taken up within the departments.

Systems Biology (SysBio) PhD Program

Strengths

- This program takes an integrated and interdisciplinary approach, and operates across sites at UZH and ETH Zurich and Basel.
- The provision of introductory courses in biology or mathematical modelling, followed by the 'Technologies and systems approaches in biology' course seemed to be successful in ensuring that students from diverse backgrounds in biological sciences or mathematics / computing are provided with appropriate training to enable them to carry out true 'systems biology' research projects.
- The advanced computational biology course was really appreciated by the students that had taken it, and had even led to work that has resulted in publications.
- This program clearly benefits from the bringing together of knowledge and researchers from different fields.
- From speaking to the students and PIs, it was clear that the program is very successful in providing a "home" / base for truly interdisciplinary students.
- The students were particularly enthusiastic about the program retreat.
- The students are well--- supported by the program coordinator, and students based at all sites felt that they could approach the coordinator regarding any problems or concerns.
- Track 1 recruitment is highly appreciated by program members including young PIs.
- Young PIs appreciate and benefit from being involved in interview panels.
- The young PIs/assistant professors that participate in the program have formed a strong and supportive community that they benefit from and value. They were also enthusiastic about the training opportunities that they were able to access such as lab management and PhD advisor courses.

Opportunities / Areas for improvement

- PIs noted that it was challenging to attract sufficient numbers of students from outside the life sciences to the program and that it was not always possible to fill all the vacant positions. The possibility that the 'Life Sciences' Zürich label may not always be helpful in this respect was discussed, though the SysBio students from a physical sciences background did not see this as a problem.
- The AB suggested that an additional flyer or adverts to target and attract computational scientists, mathematicians and physicists to the LSZ portal might be helpful here.
- The directors were keen to expand the training opportunity provided by the interview panels and had considered including PhD students on the interview panels. The AB suggested that it might be more appropriate to make this opportunity available to senior postdocs rather than PhD students.
- Students would value more input from supervisors to help them find appropriate thesis committees members.
- There was some anxiety amongst students regarding what was required/their preparation for the first committee meeting, which can result in the first meeting being considerably delayed beyond the first year. The program coordinators might help with this by stressing the importance of the meeting, and the value of students being able to discuss their proposed project with their committee at an early stage.
- Students requested that the Program course dates should be announced well in advance.
- There was some confusion amongst students about which courses they should take, with lots of emails providing information. Students advised each other on which courses to take, but might value/benefit from engagement and encouragement from their supervisors and thesis committees here.
- There was concern about some Basel--based PIs sometimes discouraging students from participating in the PhD program.
- The geographical separation of the Institutes involved in this program can be a challenge --- the students suggested that this could be improved by relaying appropriate seminars between sites. The program directors and coordinator should try to ensure that students and PIs at ETH and UZH and on all sites in Zurich and Basel are fully involved in the program.

Biomolecular Structure and Mechanism (BSM) PhD Program

Strengths

- Students on the BSM program are clearly able to carry out high quality science, resulting in good publications and prizes.
- There is a new management team in place on this program, with a highly committed program director.
- The director is open to students' ideas for the program, and would welcome them being more interactive and proactive.The annual general assembly meeting for the students sounds like a very good idea – may be it could be combined with a social event for networking afterwards.
- The students value the flexible / open structure of the program, which allows them to follow all kinds of different courses.
- The proposed introduction of the Advances in Molecular Biophysics and

Structural Biology lecture series seems a very good idea, and was met with enthusiasm when we discussed it with the students.
- The PSI part of the program seems to be very well organised and the students of PSI appear to appreciate the benefits of the program.

Opportunities / Areas for improvement

- While PIs and students were fully aware of the benefit that being part of the program/LSZH--- GS offered in terms of Track 1 recruitment, they were less clear of the additional benefits than PIs and students on other programs.
- The AB felt that PIs and students on other programs that they have reviewed have a stronger link to those programs, and wondered whether this might be because of the slightly different role of the coordinator on these programs. On other programs the coordinator clearly acts as a hub for both the students and PIs; this was less evident for the BSM program. Indeed, students were unclear about where to find information on the program and whom to turn to with problems or questions.
- The AB observed a discrepancy the PIs' and the students' perception of the need for students to receive guidance. While the students said that they sometimes felt a bit lost and would value more guidance, the PIs where looking for students to take more responsibility. May be this could be discussed during an AGM.
- The director acknowledges that the thesis committees are not embedded as much as they should be. Therefore the director is proposing to be more flexible and allow exclusively local committees. However the AB suggest some caution here as this can have an impact on the committee and its aims. The students themselves actually raised the issue about how valuable discussions with their thesis committee are if the members are very local to them/connected with their PI.
- The students mentioned that in some cases during committee meeting the supervisor does not leave the room during the meeting.
- While there was the usual enthusiasm for the program retreat, the students felt that it should not be organised by students from one group/lab as it is now. The AB has heard from students on other programs how one of the benefits of organising a retreat is networking with students from other sites/groups – the BSM students would welcome this too. In addition, this would be a good way of sharing the 'workload' amongst different groups rather than having all the students from one group involved in organising one year's retreat.
- The students felt that the obligatory BSM PhD course was quite 'dry', and lacked practical work. They would appreciate having more in depth hands--- on practical courses and also courses that would enhance their awareness of new emerging technologies.
- At the PSI the students are obliged to take a course in ethics and integrity and have organised their own activities to follow up on this area. However, this practice is not shared across the program and it concerned us that the Zurich based PIs did not think this was important. The students who had participated in an integrity/ethics course really appreciated it, those who had not would surely feel the same if the course was well taught and relevant to them.
- The average length of a PhD seems to be significantly longer than in other programs and the students were not happy about this.

Evolutionary Biology (EvoBio) PhD Program

Strengths

- The program benefits from a strong coordinator who is clearly very valued by both students and PIs.
- The mandatory aspects of the program were appreciated by the students and PIs, with particular appreciation of the retreat and survey course.
- The flexibility that the program gives students to fit following the courses around their field work was appreciated.
- Thesis committees are clearly well--- embedded on this program, with all students having their first meeting within the first year of their PhD starting.
- The program has solved the problem students were facing to get enough teaching hours by sending around a list of courses in which teachers were needed.

Opportunities / Areas for improvement

- Reinstate the obligatory ethics course, and make it focus more on scientific integrity. The program members (from director to the students) were receptive to this suggestion.
- The AB heard about situations in which all thesis committee members were within one extended research group, which removes the opportunity for students to get advice from and be monitored by someone with a broader perspective on their research/research environment.
- The AB heard about different ECs (ECTSs) being awarded for the same course depending on whether it was taken by a Masters or PhD student, or whether the student was at UZH or ETH, which concerned us.
- We were very pleased to see that many students on this program complete within four years. However, we were concerned to hear that when funding was for three years some students were expected to continue working/complete their PhD on unemployment benefit. Providing PIs with more information on funding possibilities beyond the three years might help with this.
- Although the AB was initially concerned by the range of obligatory teaching hours (100--- 400h), from discussion with the students it was clear that in practice no students had to be forced to teach more than 120h.
- We appreciate that Track I is less appropriate for this program than for other programs. The AB suggested that for recruitment 'rounds' where there are no funded EvoBio positions available, the program should not invite any students to interview. There was some concern that recruitment via Track II might be discontinued, the AB reassured the program director that they were unaware of any plans to do this.
- While the AB appreciates that the breadth of the program makes organising specific topic courses difficult, the PIs suggested that some courses on common techniques e.g. genomics would be valued by students across research areas.

Appendix 3: PhD Programs Annual Reports

Biomolecular Structure and Mechanism

The program in figures and numbers

Program statistics	as of December 31
Program students	64
Track I students	23
Track II students	41
Female students	25
Male students	39
International students	
Swiss students	
Program drop-outs	0
Completed PhD	8
Program Alumni	
Faculty members	

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	58	21
Invited candidates	8	6
Drop-outs before interview		3
Free slots (XX priority program)		
Matches	3	1
Candidates without matches	1	1
Decision against program	3	
Rejected candidates		
Change to other LSZGS programs	1	
Gained from LSZGS programs		1

Finances

	Income	Expenses
Balance January 1	0.00	
Income		
ETHZ		
UZH	35’000.00	
Credit note (re-booking of recruit. Costs /09/2014)	170.40	
Sponsoring for retreat 2015	4’950.00	
Expenses		
Salary program		9’400.00
Recruitment September 2014		5729.65
Recruitment February 2015		4021.40
Program activities:		
• Annual Meeting with Students / 01/2015		514.15
• Travel grants • Retreat 11.-13.6.2015		422.46
		14464.13
• Expenses Advisory Board 10/2015 (catering)		131.45
• Recruiting Expenses / Catering 09/14 & 02/15		218.10
Total	40’120.40	34901.34
Balance as of December 31		5219.06

Program Activities

Lectures

none in 2015

Retreat

Hotel Bienenberg, Liestal/BL, June, 11-13, 2015

Organizers: Ph. Ansorge, A. Beil, S. Gashi, L. Kooijman, M. Sitnik,

M. Schuster (Zerbe Group)

Courses

Structural Biology Course for PhD students of the Biomolecular Structure and Mechanism & the Molecular Life Sciences PhD Programs, January 26 and 27, 2015, UZH Irchel & ETH Hönggerberg

Meeting

Meeting director program/students, followed by informal apéro, January, 14, 2015, UZH Irchel

Site visit

Advisory Board, Review of Biomolecular Structure and Mechanism PhD Program, October 2015

Cancer Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	133 (16 ETH, 117 UZH)
Track I students	89
Track II students	44 (incl. 5 MDPhD and 2 Fast Track)
Female students	83
Male students	50
International students	102
Swiss students	31
Program drop-outs	4
Completed PhD	34
Program Alumni	153
Faculty members	83

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	223	245
Invited candidates	23	28
Drop-outs before interview	4	6
Free slots (CB priority program)	12	17
Matches	11	12
Candidates without matches	6	7
Decision against program	1	0
Rejected candidates	2	3
Change to other LSZGS programs		
Gained from LSZGS programs	2	1

Finances

	Income	Expenses
Balance January 1		
Income		
ETHZ	14’000.00	
UZH	38’750.00	
Fees	0	
URPP Translational Cancer	12’500.00	
URPP Functional Genomics	50’306.84	
SUK UZH	54’240.00	
SUK ETH	5’548.00	
Expenses		
Salaries program		70’500.00
Social benefits		9’663.55
Recruitment December 1		11’092.25
Recruitment July 1		19’258.20
Program activities (retreat, symposia, etc.)		64’830.85
Overhead		
Total	175’344.85	175’344.85
Balance as of December 31		

Program Activities

- Module A – Molecular and Cell Biology of Cancer Course, 10 Mondays from 16.2. - 11.5.2015
- Module B – Clinical Cancer Research Course, 15.-23.09. + 2.10.215
- Module C – Scientific Writing Course, 23.01. + 26.01.2015 and 22.06. + 06.07.2015
- Module D – Science Ethics Course, 24.11. + 1.12.2015

- NEW Module A – Cancer Biology, 2.-6.11.2015

- Microscopy Toolbox Course, 04.-06.05.2015
- GCP Course, 29.10. + 05.11.2015

- Mini-Symposium in Emmetten with international Speakers 12.4. -14.4.2015

- Travel Reimbursement Grants: travel expenses for congresses, meetings, symposia, workshops and courses. Deadlines: 15.1. and 1.5. and 1.9.2015

Outlook 2016

NEW structure of module courses:

- Module A – Cancer biology, 31.10.-04.11.2016
- Module B – Cancer and the immune system, 04.-08.04.2016
- Module C – Mechanisms of cancer induction and progression, 20.-24.06.2016
- Module D – Cancer treatments, 26.-30.09.2016
- Module E – Research with clinical samples, Nov 2016

- Scientific Writing Course, 08.02.+21.03.2016 and 04.07.+11.07.2016
- Science Ethics Course, 04.+11.02.2016 and late Autumn 2016
- Statistical Methods in Biology Course, September 2016

- CB Students retreat, Davos, with international speakers, 29.3.-31.3.2016

- Travel Reimbursements Grants: travel expenses for congresses, meetings, symposia, workshops and courses. Deadlines: 15.1. and 1.5. and 1.9.2016

Ecology

Program Activities

Teaching

The PhD program in Ecology organizes courses in four categories, subject-specific matters, methods, transferable skills and research seminars. In 2015 the program organized the following courses, Scientific Writing, Animal Movement Ecology, Data Carpentry Boot Camp, Urban Wildlife Ecology Workshop, R4All. A Recipe for Success with R, Contemporary analysis of Ecology: Mixed-Effect Models in R, Gardening Techniques & Field Equipment, Visualising Research - Producing Effective Posters and Graphical Abstracts, Plant Systematics and Identification, Zurich Interaction Seminar: Ecology and Evolution, Conservation Management Field Course.

These courses were attended not only by students from the PhD Program in Ecology but also students from other PhD programs and M.Sc. students. Three of the courses, Animal Movement Ecology, Data Carpentry Boot Camp, Urban Wildlife Ecology Workshop, were funded by the SUK-Doktoratsprogramme.

Coordination

On 1 May 2015 Dr. Debra Zuppinger-Dingley took over as coordinator of the PhD Program in Ecology from Dr. Philippe Saner.

Student Contact

The Program initiated contact with new students and students completing their PhD's in the form of briefings. Students will be encouraged to meet with the Coordinator to finalize all administrative requirements and to ensure a first personal contact with the Coordinator. During this meeting the student will be introduced to the program Director when possible.

Outreach

The Program Coordinator and Director promoted the Program in Ecology at conferences, specifically the British Ecological Society Conference 2015.

Administration

During the course of 2016 the PhD in Ecology website will be completely overhauled to be intuitively interactive for PI's, present and prospective students.

The program will support the PhD student database DissGo: https://www.dissgo.uzh.ch/.

Statistics and Figures

Table 1: Overview

Program statistics	as of December 31
Program students	57
Track I students	12
Track II students	45
Female students	35
Male students	22
International students	41
Swiss students	16
Program drop-outs	2
Completed PhD	4
Program Alumni	146
Faculty members	49

Table 2: Recruitment

Recruiting statistics	December 1	July 1
Complete applications	46	95
Invited candidates	4	5
Drop-outs before interview	-	-
Free slots (XX priority program)	-	-
Matches	2	1
Candidates without matches	2	4
Decision against program	-	-
Rejected candidates	-	1
Change to other LSZGS programs	1	-
Gained from LSZGS programs	-	-

Table 3: Finances

	Income	Expenses
Income		
ETHZ	21820	
UZH	21000	
Fees	13530	
Other	7980	
Expenses (UZH, Fees, Other)		
Salaries program		18894
Social benefits		3582
Recruitment		5579
Program activities (retreat, symposia, etc.)		12380
Overhead		434
Total		40870
Balance as of December 31	+1639	
Balance ETHZ	+21820	

Released by: Professor Owen Petchey

Prepared and distributed by: Dr. Debra Zuppinger-Dingley

Epidemiology and Biostatistics

The program in figures and numbers

Program statistics	as of December 31
Program students	34
Track I students	7
Track II students	27
Female students	19
Male students	15
International students	22
Swiss students	11
Program drop-outs	0
Completed PhD	2
Program Alumni	2
Faculty members	13

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	41	71
Invited candidates	7	8
Drop-outs before interview	1	2
Free slots (XX priority program)	3	2
Matches	3	2
Candidates without matches	3	3
Decision against program	0	0
Rejected candidates	0	0
Change to other LSZGS programs	0	1
Gained from LSZGS programs	0	0

Finances

	Income	Expenses
Balance January 1		
Income		
ETHZ		
UZH G-74011-11-01	22'400.00	
Fees		
Other		
Expenses		
Salaries program L-42320-01-01		21’875.75
Social benefits L-42320-01-01		4'022.97
Recruitment December 1 G-74011-11-01		5'283.45
Recruitment July 1		3'834.55
Program activities (retreat, symposia, etc.) L-42320-01-01		18'736.60
Overhead		
Total	22'400.00	53'753.32
Balance as of December 31		

Program Activities

- First EBPhD Retreat in the Anoniushaus Mattli in Morschach, January 22-23, 2015
- Offer of Zurich R courses available to EBPhD students
- Science slam talks at the Open Day of the EBPI "Der Gesundheit auf der Spur" June 6, 2015 with training
- Finalization of interview guide and one-day interview training workshop for senior scientists in the program, July 7 2015
- BBQ of the Master Program in Biostatistics and the PhD Program in Epidemiology and Biostatistics, May 22, 2015
- EBPhD Orientation Day, September 29, 2015 with key note lecture by Alfredo Morabia, Columbia University Mailman School of Public Health
- Epidemiology and Biostatistics Methods Seminar, spring and fall semester 2015
- Research in Progress talks fall semester 2016
- First two graduates defend their theses in September and October 2015

Outlook

- Second EpiBiostats PhD Retreat, June 30 - July 1st 2015, Seminar Hotel am Ägerisee
- Participation with preferential package in the Zurich R courses throughout 2016
- BBQ of the Master Program in Biostatistics and the PhD Program in Epidemiology and Biostatistics, May 27, 2016
- Epidemiology and Biostatistics Methods Seminar, spring and fall semester 2016
- Research in Progress talks, spring and fall semester 2016
- PhD Orientation Day September 2016

Evolutionary Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	112
Track I students	14
Track II students	98
Female students	69
Male students	43
International students	76
Swiss students	36
Program drop-outs	5
Completed PhD	6
Program Alumni	42
Faculty members	26

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	24	35
Invited candidates	2	1
Drop-outs before interview	0	0
Free slots (priority program)	3	1
Matches	2	1
Candidates without matches	0	0
Decision against program	1	1
Rejected candidates	0	0
Change to other LSZGS programs	0	0
Gained from LSZGS programs	1	0

Finances

	Income	Expenses
Balance January 1		0.00
Income		
UZH and ETHZ	37’900.00	
Student fees paid by PIs	7’300.00	
Reimbursed recruitment fees 2014 from PIs	2’036.00	
Total	47’236.00	
Expenses		
Salary program coordinator		30’000.00
Program activities (annual retreat)		17’183.07
Contribution for PSC Course		300.00
Total		47’483.07
Balance as of December 31		-247.07

Program Activities 2015

-Annual Retreat at Hotel and Bildungszentrum Matt, LU, June 1-3 2015

-BIO395 Concepts in Evolutionary Biology (held by PIs of the URPP Evolution in Action, together with PSC)

-BIO 610 Next-Generation Sequencing: Assembly, Annotation and Transcriptomes (together with PSC)

-BIO 634 Next-Generation Sequencing 2 – Advanced Course: Transcriptomes, Variant Calling, and Biological Interpretation (together with PSC)

-BIO 673 Computational Biology HS13 (organized by MLS)

-Transfer of PhD student and PI data into the DissGO system

Outlook 2016

-Annual Retreat at Gais, AR, June 6-8 2016

-BIO395 Concepts in Evolutionary Biology (held by PI's of the URPP Evolution in Action, together with PSC)

-BIO554 Survey Course: Topics in Evolutionary Biology

-BIO 609 Introduction to UNIX/Linux and Bash Scripting (together with PSC)

-BIO 610 Next-Generation Sequencing 1 – Introductory Course: Assembly, Mapping, and Variant Calling (together with PSC)

-BIO634 Next-Generation Sequencing 2 – Advanced Course: Transcriptomes, Variant Calling, and Biological Interpretation (together with PSC)

-BIO 673 Computational Biology (organized by MLS)

-Scientific Writing and a Research Ethics Course is in preparation, in cooperation with URPP Evolution in Action

Integrative Molecular Medicine

The program in figures and numbers

Program statistics	as of December 31
Program students	123
Track I students	58
Track II students	65
Female students	87
Male students	36
International students	83
Swiss students	40
Program drop-outs	6
Completed PhD	30
Program Alumni	138
Faculty members	109

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	18	22
Invited candidates	8	15
Drop-outs before interview	1	2
Free slots (imMed priority program)	11	12
Matches	8	9
Candidates without matches	2	2
Decision against program	1	0
Rejected candidates	1	1
Change to other LSZGS programs	1	4
Gained from LSZGS programs	6	3

Finances

	Income	Expenses
Balance January 1	0	0
Income		
ETHZ		
UZH	50’200.--	
Fees (ext. participants mouse course)	750.--	
Other (recruitment)	12’765.20	
Expenses		
Salaries program		23’579.10
Social benefits (incl. lunchchecks)		750.00
Recruitment December 1		7’157.75
Recruitment July 1		11’257.35
Program activities (courses, retreat, symposia, etc.)		20’810.50
Overhead		-.--
Total	63’715.20	63’554.75
Balance as of December 31		160.45

Program Activities

Graduate courses of the imMed PhD Program

January 6/7, 2015: Flow Cytometry

February 4/5, 2015: Electrophysiology

June 8/9, 2015: Introduction to human physiology: Membrane transport/Signal transduction

July 11/12, 2015: Mouse physiology and pathophysiology

September 14/15/16, 2015: Muscle plasticity

September 22 & 24, 2015: Introduction to human physiology: Respiration and blood

November 13 - December 18, 2015: Aspects of sensory motor transformation: Balance, eye movement control, motion perception

Vision 2020

The seminar series «Vision 2020 – a personal perspective» organized by a committee of PhD students from the imMed PhD program was continued with the topics «Synthetic Biology» and «A trillion Microbes & Me». Prominent speakers, national and international, share their «Vision 2020» on multidisciplinary topics of general interest through different perspectives, such as economic, ethical and social facets in this series. The seminar series is very well established within the Life Science events at UZH and ETHZ with 25-65 participants and is supported by the SUK program Doktoratsprogramme from 2012 to 2016.

Synthetic Biology

January 22, 2015: Synthetic biology and smart therapeutic nanosystems.
Guillermo de la Cueva Méndez, Andalusian Centre for Nanomedicine and Biotechnology (BIONAND), Málaga, Spain

February 5, 2015: Alumni imMed PhD Program.
Christian Caprara, Swiss Stem Cell Foundation, Gentilino/TI and Micha Häuptle, GlycoVaxyn AG, Schlieren

A trillion Microbes & Me

July 2, 2015: Probiotics: from myth to molecular modes of action.
Patrick Veiga, Senior Scientist - Danone Nutricia Research, Life Science Department, Visiting Scientist - Harvard School of Public Health, Dept. of Immunology and Infectious Diseases

July 16, 2015: Gut Microbiota confers protection against Malaria.
Miguel Soares, Instituto Gulbenkian de Ciência Oeiras, Portugal

December 3, 2015: Back to the Future of Human Milk Oligosaccharides.
Lars Bode, School of Medicine, Department of Pediatrics, University of California, San Diego

The series on «A trillion Microbes & Me» will continue with one more talk in January 2016. The new topic from spring 2016 on will be «Genetic testing». The seminar series will end in December 2016 and not be continued.

Retreat of the imMed PhD Program

The 10th retreat of the imMed PhD Program was held on June 1/2, 2015 at the Youth Hostel in Solothurn. The first day was dedicated to the PhD students' presentations of their ongoing thesis

projects. Guest speaker Roger Gfrörer, Head of Career Services UZH, gave an inspiring talk on «How to push luck» to find an exciting job after the PhD. Networking and testing one's own limits was the motto of the second day at the Seilpark Balmberg.

Annual symposium of the ZIHP

The imMed PhD Program was founded by the Zurich Center for Integrative Human Physiology (ZIHP). One of the main aims of the ZIHP is the promotion of young researchers.

Outlook

The imMed PhD Program offers students a scientific environment that combines basic and clinical research for the comprehensive study of organ functions in health and disease. The program director and the coordinator attach great importance to ensure the supervision of and advice for the students from both perspectives.

The catalogue of graduate courses is constantly evaluated by both commission and students of the imMed PhD Program and adapted to the needs of the students. The annual retreats which are highly successful for both scientific exchange and networking will be continued in 2016.

The imMed alumni event in February 2015 with 60 participants - current students and alumni – was highly appreciated. Since two thirds of the imMed community are women, an alumni event is planned for 2016 with the focus on women's careers.

Microbiology and Immunology

The program in figures and numbers

Program statistics	as of December 31
Program students	210
Track I students	104
Track II students	106
Female students	131
Male students	79
International students	137
Swiss students	73
Program drop-outs	3
Completed PhD	27
Program Alumni	161
Faculty members	80

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	196	222
Invited candidates	26	26
Drop-outs before interview	8	3
Free slots	18	17
Matches	7	7
Candidates without matches	3	10
Decision against program	4	2
Rejected candidates	0	1
Change to other LSZGS programs	4	3
Gained from LSZGS programs	3	3

Finances

	Income	Expenses
Balance January 1		
Income		
ETHZ	32'600	
UZH	32'600	
Fees	51'000	
Other	34'500	
Expenses		
Salaries program		80'100
Social benefits		
Recruitment December 1		14'920
Recruitment July 1		11'650
Program activities (retreat, courses, travel grants, etc.)		34’745
Total	150'700	141'415
Balance as of December 31	9'285	

Program Activities

MIM New Year’s Reception at BQM

January, 21th, 2015

9th Microbiology and Immunology Introductory Course
January, 19-21, 2015
Institute of Plant Biology, University of Zurich

In the Introductory Course, 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 laboratories of the MIM consortium, and will be able to get in contact with those labs that could contribute to their own research work.

The scientific program of the 9th MIM Introductory Course included 8 oral presentations of PIs and 48 of PhD students, covering the fields of general and medicinal Microbiology, Virology and Immunology, plus a talk from of

a senior PhD student (Eva Potthoff: *Exploring single-cell adhesion by fluidic force microscopy: a look behind the scenes).*

Additionally, the participants did the Fox-Trail, an outdoor paper chase through the city.

The MIM Introductory Course was sponsored by SUK-Programm "Doktoratsprogramme".

8th MIM Student Retreat
August, 26-28, 2015
Alpenlodge Kühboden, Fiescheralp

The MIM retreat is an opportunity to exchange ideas and get to know colleagues of the MIM PhD Program as well as some excellent guest speakers. The broad scientific program of the 8th MIM Student Retreat with 9 oral and 39 poster presentations covered the fields of Microbiology, Immunology and Virology. It offered the students a chance to increase their presentation skills in a friendly atmosphere and to discuss the research projects with fellow PhD students. A workshop on "Taking a deep look: modern microscopy technologies" was held by Dr. Urs Ziegler (Center for Microscopy and Image Analysis, UZH) and three guest speakers gave inputs on different career paths:

Dr. Steve Pascolo Miescher Pharma GmbH

Dr. Heike Nowag Consulting PwC

Dr. Christoph Burkhart Novartis Institute for Biomedical Research

The Retreat was sponsored by SUK Programm "Doktoratsprogramme".

Additional Events

In 2015, the student and alumni representatives organized (with the support of fellow students) several events aiming at fostering the dialogue between prospective, current and former members.

2.2.2015 climbing Mount Üetli

5.2.2015 pub crawl for new candidates

19.5.2015 5th MIM career event

Life of a postdoc: securing funding & dealing with future perspectives

Dr. Aysim Yilmaz (SNF), Prof. Markus Seeger (UZH), Dr. Daniel Ritz (Actelion)

4.6.2015 MIM summer BBQ at Irchel Park

2.9.2015 LSZGS recruitment round: responsible for organizing the student party and info desk for applicants

3.9.2015 pub crawl for new candidates

16.10.2015 wine tasting (Staatskellerei)

11.12.2015 ice skating at Polyterrasse

Moreover, a mentoring program was offered to our new PhD students for the first time: on a voluntary basis, they may profit from a tandem mentoring to discuss their personal and professional development as addition to the scientific support provided by the PhD committee. A workshop (*train the mentor*) held by Dr. Monika Clausen

introduced the mentors (senior PhD students and alumni) to the roles and various responsibilities they embrace and focused on communication tools.

The MIM mentoring program was supported by GRC "Fördermittel zur Qualitätssicherung und Qualitätsentwicklung auf Doktoratsstufe".

Travel Grants

In 2015, the MIM Program provided partial travel support for national conferences / meetings. 10 travel grants were awarded:

Simon Altmeier	Annual Congress of Swiss Society of Allergology and Immunology	Basel
Michael Dal Molin	Annual Assembly of the Swiss Society for Microbiology (SSM-SGM)	Lugano
Marisa Silva	6th Swiss Microbial Ecology Meeting	Ascona
Bernhard Steiner	Jahrestagung der DGHM	Münster
Marie-Theres Pohl	Viruses 2016 –At the Forefront of Virus-Host interactions	Basel
Caroline Lanz	Viruses 2016 –At the Forefront of Virus-Host interactions	Basel
Umut Karakus	Viruses 2016 –At the Forefront of Virus-Host interactions	Basel
Lucia Reh	Viruses 2016 –At the Forefront of Virus-Host interactions	Basel
Urs Mörbe	WIRM	Davos
Sandra Ring	WIRM	Davos

Outlook

Symposium in celebration of 10 years of the MIM PhD Program

On June 17, 2016, the MIM PhD Program will celebrate its 10th anniversary and the positive development together with all current and formers members which contributed substantially the success of the program. The Symposium will be an excellent opportunity to share knowledge between academics and to establish contacts with experts also outside from academia as well as to provide our PhD students the opportunity to see different successful careers from former and current MIM members.

Mentoring

The mentoring program will be further developed and improved. For that purpose, a kick off meeting will be offered to the mentor / mentee pairings as well as additional trainings for mentors.

Graduate Courses

An internal evaluation carried out in 2015 among the MIM members showed the need of more methodology courses for PhD students. We are trying to bring together especially the younger PIs in order to organize such courses on state of the art techniques.

Molecular Life Sciences

Program Motivation

The Molecular Life Sciences Ph.D. program is a 3-4 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 84 faculty members (compared to 85 faculty members in 2014), who are associated with over a dozen different institutes at the ETH Zurich (ETH) and the University of Zurich (UZH). 199 graduate students were enrolled in the MLS program by the end of 2015 compared to 197 students at the end of 2014. 98 (49.8%) of our students are women and 101 men. 33 MLS students graduated in 2015. The program has now 326 alumni in total. The average time to successful completion of a Ph.D. thesis in the MLS program has so far been 4 years and 6 months.

The program in figures and numbers (2015)

Program statistics	as of December 31st,
Program students	199
Track I students	127
Track II students (including MD/PhD [4] and fast track [2])	72
Female students	98
Male students	101
International students	156
Swiss students	43
Program drop-outs	5
Completed PhD	33
Program Alumni	326
Faculty members	84

Student Body

Of the 199 students, 123 are enrolled at the UZH and 76 at ETH. German (50) and Swiss students (43) account for nearly half of all students. The next larger groups are the Italians (13) and Austrians (12) followed by Indians (12), Chinese (7), Polish (7) Greek, Russian and Turkish students (5). Four students come from the Netherlands, Portugal and Spain and three students come from the Czech Republic and Malaysia as well as 2 nationals from Israel and Sweden. In addition, we have one student each from Albania, Argentina, Armenia, Belgium, Costa Rica, Croatia, France, Hungary, Liechtenstein, Lithuania, Luxembourg, Nepal, Pakistan, Serbia, Slovenia, South Africa, Ukraine and Vietnam in the MLS program.

Recruitment 2015

Recruiting statistics	December 1	July 1
Complete applications	181	219
Invited candidates	27	39
Drop-outs before interview	3	13
Candidates at interview	24	26
Free slots (MLS priority program)	12	18
Matches	6 (+2)	6 (+6)
Candidates without matches	5	7
Decision against program/ no list handed in	1 / 4	4 / 1
Rejected candidates	2	3
Change to other LSZGS programs	7	5
Gained from LSZGS programs	2	6

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. Claus Azzalin (ETH – representative of junior faculty members)
Prof. Yves Barral (ETH – vice chair)

Prof. Alex Hajnal (UZH)

Prof. Michael O. Hottiger (UZH – chair)

Dr. Raffaella Santoro (UZH)

Prof. Anton Wutz (ETH)

Prof. Oliver Zerbe (UZH)

Meret Arter (ETH – student representative since September 15)

Lorenzo Gatti (UZH – student representative since September 15)

Jennifer Keim (UZH – student representative until September 15)

Karin Sõstar (ETH – student representative until September 15)

Meetings of the SC are planned for every second Wednesday of every month. However, since the program is well established and is smoothly running, the SC did meet only 3 times in 2015 to discuss and decide on the different program activities.

The MLS program faculty consists of principal investigators (PIs) from several different institutes 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. One new faculty member joined the MLS program in 2015. 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:

Alfredo Ibanez, Laboratory of Organic Chemistry, ETH,

Stefan Luschnig, Molecular Life Sciences, UZH, to University of Münster

New PIs:

Tuncay Baubec, Department of Molecular Mechanisms of Disease, 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 2015.

Finances 2015 (in CHF)

	Income	Expenses
Income		
ETH	32’900	
UZH	32’900	
ETH SUK	43’500	
UZH SUK	43’500	
Fees	8’000	
GRC (new web page)	5’600	
Sponsoring Retreat	12’150	
Expenses		
Salary program coordinator (including social benefits)		44’780
Recruitment September 2014		15’585
Recruitment February 2015		14’933
Teaching (including PI workshop)		8’950
Program activities: Retreat		42’844
Travel Grants		21’750
Lecture series		5’930
Christmas Party		2’782
Alumni (2x Career Events)		1’580
Overhead		662
Total	178’550	159’796
Balance as of December 31	18’754	

Program Activities 2015

Teaching

Module	Length	Dates	Participants	Remarks
Structural Biology	2 days	26 & 287January 2015	5 students	Joint course with BSM program
1st-year-Presentations	4x1/2 day	27 February, 6, 13 & 20 March 2015	21 students & 3 moderators	
FACS Course	2.5 days	23-26 March 2015	2 students	As of 2015 open to all students of the LSZGS
Microscopy Toolbox	3 days	4-6 May 2015	28 students	Together with CB
Ethics in Science	2 days	11 & 12 May 2015	18 students	
Scientific Writing	5x1/2 day	12, 20, 27 May, 3 & 10 June 2015	5 students	Together with Graduate Campus
RNA Sequencing	3.5 days	23-26 June 2015	6 students	
Matlab	3 days	5 & 6 June 2015	9 students	As of 2015 open to all students of the LSZGS
1st-year-Presentations	4x1/2 day	11, 18, 25 September & 2 October 2015	11 students & 5 moderators	
Ethics in Science	2 days	19 & 20 October 2015	13 students	
Scientific Writing	4x1/2 day	25 November, 2, 9 & 16 December 2015	6 students	Together with Graduate Campus
Computational Biology	3 days	2 & 3 December 2015	13 students	Joint course with EvoBio
Light Microscopy	3 days	7-9 December 2015	12 students	

As planned the new course format "1st-year-presentations" was evaluated in fall 2015 with the kind support of the Center for Teaching and Learning of the UZH. On the one hand, the reflections of the spring course were examined for positive and negative feedback and on the other hand, critical points were further evaluated with an individual questionnaire for the 3-minute presentation session and a questionnaire for the long presentation session. Overall, the course obtained a benevolent feedback and the students seem to be quite satisfied with the current format.

Tutorials

In 2015 again several tutorials were offered by faculty members of the MLS program 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
Quantitative image-based cytometry to study cellular responses to replication stress	Matthias Altmeyer
Mechanisms and Physiology of Biological Timing	Steven Brown
Adenoviral vectors for gene therapy	Silvio Hemmi
Mass Spectrometry-Based Metabolics	Alfredo Ibanez
Fluorescent Proves for Nucleic Acids	Nathan Luedtke
Integrative Views of Small RNA Pathways	Bogdan Mateescu
TNF in cell death and inflammation	Wei-Lynn Wong

Retreat

The 12th MLS retreat was held from 27 to 29 August 2015 in Engelberg. 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 2015 either gave a talk or presented a poster. Four external speakers, Prof. Erich Nigg, director of the Biozentrum at the University of Basel, Prof. John Rinn, Broad Institute of MIT and Harvard, David del Álamo, Editor at the EMBO Journal, as well as Prof. Frauke Melchior from the Zentrum für Molekulare Biologie at the University of Heidelberg, provided the students insights into their respective fields of research. Apart from the poster presentations, talks and discussions, the retreat committee organized different leisure activities such as hiking, climbing in a rope park or a visit of the spa. The organizing committee was formed by: Carina Derrer, Friedrich Kunze, Jennifer Keim (student representative), Julia Falschlunger, Karin Sostar (student representative), Maxime Bodak and Sumit Pawar.

Lecture Series

All organized lectures were a full success and attracted a large audience. The MLS students and other interested audience had after all talks the opportunity to talk to the speaker during a social beer, which was often followed by a dinner in town. The students elected at their retreat a new committee who will continue their predecessors' effort to invite top-class lecturers to Zurich.

Speaker	Topic	Date
Prof. Elly Tanaka, Center for Regenerative Therapies TU Dresden	“Evolving limb regeneration, a story of conservation and innovation”	20 January 2015
Prof. Torben Heick Jensen, University of Aarhus, Denmark	“Making and breaking of nuclear RNA”	9 September 2015
Prof. emer. Christiane Nüsslein Volhard, Max Planck Institute for Developmental Biology, Tübingen	"The development of colour patterns in fishes: Towards an understanding of the evolution of beauty"	7 October 2014
Prof. David Rubinsztein, Cambridge Institute of Medical Research, University of Cambridge, UK	“Autophagy and other pathways that protect against neurodegeneration”	23 October 2015
Dr. Gwenaël Rabut, Institute of Genetics & Development of Rennes	“Fluorescence complementation illuminates a new quality control mechanism at the inner nuclear membrane”	20 November 2015

Organizing committee MLS lecture series 2014/2015: Mandy Boermel, Alessio Bolognesi, Janine Toggweiler, Xuan Wang

Organizing committee MLS lecture series 2015/2016: Izzet Mehmet Akcay, Soumya Chaurasia , Elisabeth Fischer, Marie Sarazova

Awarded Travel Grants 2015

The deadlines were 1 March, 1 July and 1 November 2015.

Student	Funded trip
Akcay Izzet	Macromolecular Assemblies at the Crossroads of Cell Stress and Function
Benegiamo Giorgina	16th Servier-IGIS Symposium – The Islet and Metabolism Keep Time
Bonalli Mario	Society for Melanoma Research (SMR) Congress
Chaurasia Soumya	Seeing is Believing (Imaging the process of life)
D'Agati Gianluca	9th European Zebrafish Meeting
Dalcher Damian	Bioinformatic workshop: BioBash Essentials
Feng Yuehan	Keystone Symposia – Hybrid Methods in Structural Biology
Felker Anastasia	9th European Zebrafish Meeting
Frommel Sandra	Frontiers in Stem Cells & Cancer
Gatti Lorenzo	Summer School on Bayesian Methods to Estimate Species Divergence
Geigges Marco	Transgenerational Epigenetic Inheritance
Glasauer Stella	European Retina Meeting 2015
Haag Andrea	6th EMBO Meeting
Hartwig Tom	International Congress of Immunology
Hess Christopher	9th European Zebrafish Meeting
Jaeger Linda	29th Symposium of the Protein Society
Kanfer Gil	Multifaceted Mitochondria
Keim Jennifer	Neurobiology of Drosophila
Keller Martin	20th international *C. elegans* meeting
Kijowski Adam	Lipids, Molecular & Cellular Biology of Lipid Dynamics and Lipidomics
Komuczki Juliana	7th International Conference on Autoimmunity: Mechanisms and Novel Treatments
Leone Sergio	3rd Max Planck Freiburg Epigenetics Meeting
Leu Philipp	14th CSH Conference on Mechanisms of Eukaryotic Transcription
Montellese Christian	10th EMBO Conference on Ribosome Synthesis
Moravec Martin	Eukaryotic mRNA Processing
Mrdjen Dunja	7th International Conference on Autoimmunity: Mechanisms and Novel Treatments

Müller Sebastian	Keystone Conference: Beige and Brown Fat: Basic Biology and Novel Therapeutics
Prummel Karin	9th European Zebrafish Meeting
Schmid Markus	Modern DNA concepts and tools for safe gene transfer and modification
Sobotzki Nadine	Chemical Tools for Decoding Biology and Advancing Medicine
Sulcova Jitka	UK – Singapore Skin Research Symposium 2015
Toggweiler Janine	Summer School on Molecular Mechanisms in Signal Transduction and Cancer
Vollenweider Eva	EMBO Conference: Chromatin and Epigenetics
Von Moos Lea	The Nanoscale Science & Engineering for Agriculture & Food Systems Grodon Research Conference
Zimmerli Dario	Summer School on Molecular Mechanisms in Signal Transduction and Cancer
Zurkirchen Luis	International Society for Stem Cell Research (ISSCR) Annual Meeting

Travel grant committee: Martin Müller (PI, UZH), Joao Matos (PI, ETH), Felix Hartmann (MLS student). In total the program awarded CHF 21'750 as travel grant.

Social Activities

2nd Workshop on "Team growth" for junior program faculty members: On 17 April and 11 May the program offered for the second time a workshop on "Team growth: Selecting and Managing PhD Students". The course was prolonged for half a day and, based on the detailed feedback from the first course, thoroughly revised. Attendance of the workshop was compulsory for junior PIs, who have recently (not longer than two years ago) started their own group. As the MLS did not accept many new PIs to the program, the course was opened up for other PIs from the Life Science Zurich Graduate School to fill the course. As last year, the program was able to fund the event thanks to the funding mechanism "Cooperative Quality Assurance" of the Graduate Campus (UZH). Unfortunately, the MLS will not be able to offer the course in the near future because the financial support of the Graduate Campus was from the very beginning limited to two years and the LSZGS decided against taking over the organization and funding of such a course. Whether the Faculty of Science (UZH) and the D-BIOL (ETH) will in future organize and offer a similar type of workshop is currently under negotiations.

Career and Networking events 2015: The students of the MLS program organized a career & networking event on 10 June (organizer: Adam Kijowski) and 5 November (organizers: Luis Zurkirchen & Philipp Leu) to which 3-4 alumni were invited to provide insights in their current job and/or to present their company.

Dennis Castor, Project Manager at MEDA Pharma GmbH

Oliv Eidam, Data Scientist at Roche Innovation Center

Julia Pepperl, Paramedic at Kantonsspital Winterthur

Florian Kapitza Co-Founder and Director of Aiducation International

Christina Dittrich-Megej, Technology and Licensing Manager, ETH Transfer

Simon Messner, Senior Product Manager, InSphero

Ralph Schiess, CEO and Co-Founder of ProteoMediX

The Christmas Party took place on 11 December 2015.

Launch of student database "DissGo": During the past two years the LSZGS has been designing, developing and implementing an interactive database ("Dissertation Go!" = DissGo) that mirrors the entire Ph.D. progress. During 2014 the MLS program imported all data of its program faculty members and Ph.D. students. Information about committee meetings, the research plan and attended courses as well as the respective documents are now online. DissGo Beta was successfully launched in Spring 2015 and since March the MLS students have online access to their PhD data. In Fall 2015 DissGo was also opened to the PIs, who can access besides their own data also their PhD students' data and benefit of an overview of all their different committee roles. Although the database still needs to be further developed, as several important features are yet missing, it is undeniably an extremely helpful tool. Not only does it relieve the program coordinator of a lot of administrative work but it also allows the PhD students to easier navigate through their PhD keeping track of all relevant documents and deadlines.

Outlook

Face-lift of MLS web page: The web pages of the MLS program have been created in 2007 and have never been completely overhauled. The pages are sub-sites of the LSZGS web pages and since the layout is for both the same, it is for many visitors of the pages difficult to clearly distinguish between the MLS program and the LSZGS. Moreover, the used software is outdated and the graduate school's pages have already been hacked several times, which makes a major revision indispensable. For this reason the MLS received financial support within the funding mechanism "Corporate Quality Assurance" of the Graduate Campus in 2015 to revise the web pages by Spring 2016. Ideally, the new pages will be up and running before the due date (1 July 2016).

Newsletter: Due to a very poor attendance of faculty members to the yearly MLS faculty meetings, the SC decided that the MLS program will not anymore organize a faculty meeting but rather directly inform the program faculty members by email. As the students thought that it would be also convenient for them to inform MLS students more generally and frequently about what is planned in the program, the MLS program will launch a newsletter and distribute it among faculty members, alumni and the student body before the summer break.

Molecular and Translational Biomedicine

The program in figures and numbers

Program statistics	as of December 31
Program students	76
Track I students	48
Track II students	28
Female students	37
Male students	39
International students	63
Swiss students	13
Program drop-outs	2
Completed PhD	4
Program Alumni	84
Faculty members	

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	60	59
Invited candidates	12	14
Drop-outs before interview	4	3
Free slots (XX priority program)	2	5
Matches	4	6
Candidates without matches	4	5
Decision against program	1	0
Rejected candidates	0	0
Change to other LSZGS programs	3	1
Gained from LSZGS programs	1	3

Finances

	Income	Expenses
Balance January 1	**132’068.14**	
Income		
ETHZ		
UZH (LSZGS)	29’200.00	
Fees		
Other		
SUK Proposal	* 51’800.00	
GRC Proposal	7’500.00	
Refund of wrong recruitment costs	340.80	
Expenses		
Salaries program		
Social benefits		
Recruitment Dec 2014		6’825.35
Recruitment July 2015		10’987.25
Recruitment Dec 2015		7’552.00
Program activities (retreat, symposia, etc.)		55’699.80
Overhead		
Total	88’840.80	81’030.85
Balance as of December 31	**139’844.54**	

* not yet on MTB account

Program Activities

In January 2015, the first course on “Practical Personalized Medicine” took place with over 60 particpiants. The resonance for the course, which should initially have only 20 places, was so high that the course was extended and will be repeated in 2016. The goal of the course was to introduce the participants to the current and future methods and strategies in personalized medicine, make them aware of ethical considerations and legal issues, mobile device-driven health data collection, and discuss several cases from the University Hospital of Zurich. The course with eleven speakers mainly

from USZ was a great success with the participation of 60 students from different PhD programs and other members of the UZH and ETH.

Another new course on “Genomic Medicine” has been initiated by Prof. Beerenwinkel and the NEXUS group and has become a new elective compulsory course of the MTB. The course was held in December 2015 with 28 participants, some of them also from other PhD programs of the LSZGS.

A third course on Next Generation Sequencing was launched in cooperation with the FGCZ and took place in December 2015. Their DNA NGS course was adjusted especially to the needs of the MTB students as it was conducted using mammalian instead of bacterial cells (which were provided by the Institute of Surgical Pathology, USZ). The course fees have been paid by the MTB (paid in the beginning of 2016), which is the reason that the course is exclusively open to MTB students.

The MTB and CC-PM was presenting the research field of “Personalized Medicine” at the Scientifica in September 2015. Several MTB students helped at the stand by explaining the audience what personalized medicine is about and by building models of the DNA with the children. The feedback of the visitors was, according to the organization team of the Scientifica, very good.

In November 2015, the Annual MTB Retreat took again place in the Kartause Ittingen (TG). 41 PhD students and 49 professors and other MTB/CC-PM members have experienced two days of very interesting keynote lectures held by:

- Mark Rubin (Department of Pathology, Cornell University NY (US))
- Oliver Stegle (EMBL European Bioinformatics Institute, Cambridge (UK))
- Bart Deplancke (Laboratory of Systems Biology and Genetics, EPFL Lausanne (CH))

Internal lectures, seven PhD talks and several poster sessions completed the program of the Retreat. The retreat is a unique opportunity for the PhD students to get in direct contact with professors and other PhD students and to discuss on their projects, on new project ideas and to learn more about the projects of others.

Following these two days, an additional day has been added to the Retreat in 2015, solely for the PhD students, for the conduction of the GRC-funded quality workshop (as suggested by the GRC). Within the workshop, the PhD students had the possibility to give feedback to the different aspects of the MTB PhD program, facilitated by a moderator. The feedback was overall very positive and a lot of good ideas for improvement have been collected for future retreats, events and courses as well as for the website and the program coordination. The PhD students also managed to build different small taskforces to develop the MTB in a stronger network and to organize social events and platforms for exchange (i.e. Google+ group,…).

Outlook

The courses, which have been initiated in 2015, will be repeated in 2016. For several of these courses, the course dates are already fixed and registration is open. Additionally, the MTB is always looking for new courses to be launched so we hope to be able to extend the course program of the MTB further in 2016.

If the GRC proposal will be successful, a lecture series will be organized in 2016. It was one of the wishes of the MTB students to have more insights in the actual research activities in the field of molecular and translational biomedicine. The goal of this lecture series is to invite different speakers, selected by the PhD students themselves, and to have a presentation about their research topic as well as the time for discussions and scientific exchange. The lectures will mainly be organized by the PhD students with help of the program coordinator.

As a result of the quality workshop of 2015, the MTB will organize a first “Welcome event” for the newly recruited MTB students. Within this event, the new PhD’s will be introduced to the courses and regulations of the MTB, get to know the program coordination and have the chance to ask some older PhD students all types of questions. The goal of this event is to give the new students all important information for their time at the MTB as well as to initiate a closer relationship within the MTB. For the future, these welcome events will be organized twice per year, some months after the interview sessions in September and February.

The Annual Retreat 2016 will again take place at the Kartause Ittingen (TG) the 30th and 31st October. Three keynote speakers will be invited for the retreat. As the PhD students wanted to extend the time for the poster sessions in order to have more time for discussion with the PI’s, the program will be slightly changed in comparison to the last years.

In March 2016, the MTB and CC-PM were participating in the Treffpunkt Science City with a stand about “Personalized Medicine”. MTB students together with some postdocs and clinicians helped at the stand, which was similar to the one from the Scientifica last year.

Neuroscience

The program in figures and numbers

Program statistics	as of December 31
Program students	277
Track I students	71
Track II students	206
Female students	129
Male students	148
International students	178
Swiss students	99
Program drop-outs	3
Completed PhD	42
Program Alumni	551
Faculty members	144

Recruitment

Recruiting statistics	December 14	July 15
Complete applications	88	118
Invited candidates	12	15
Drop-outs before interview	1	2
Free slots (XX priority program)	7	7
Matches	3	9
Candidates without matches	7	6
Decision against program	-	1
Rejected candidates	-	-
Change to other LSZGS programs	-	-
Gained from LSZGS programs	-	1

Finances

	Income	Expenses
Balance January 1		
Income		
ETHZ	37’690	
UZH	37’690	
Fees		
Other		
Expenses		
Salaries program		
Social benefits		
Recruitment December 1 (2014)		6’660
Recruitment July 1 (2015)		9’991
Program activities (PhD retreat and courses)		33’565
Student Travel Grants / Conference contributions		24’712
Miscellaneous		
Total	**75’380**	**74’928**
Balance as of December 31, 2015		+452

Program Activities

1) Courses

- Introductory Course in Neuroscience I (Fall term 2015)
- Introductory Course in Neuroscience II (Spring term 2015)
- Advanced Course in Neurobiology: Functional Anatomy of the Rodent Brain I (Fall term 2015)
- Advanced Course in Neurobiology: Functional Anatomy of the Rodent Brain II (Spring term 2015)
- BIO628: Neuroscience Block Course (June 2015, primarily for MD/PhD Students)
- Lectures in Clinical Neuroscience (November 2015)
- Ethics in the Neurosciences (May 2015)
- Crash Course in Statistics for Neuroscientists (July 2015)
- Writing Neuroscience Research Papers (June 2015)

- Neuroimaging Block Course (November 2015)
- Toolbox for Neuroscientists (September 2015)

2) Symposia, conferences and other scientific activities

- ZNZ PhD Retreat, 7 – 9 May 2015, Valens
- ZNZ Symposium and Best PhD Thesis Award, (11 September 2015)
- ZNZ Retreat on Scientific Career Planning, 10 November 2015

3) Outlook 2015

- Student exchanges in pilot projects within our partnerships with McGill, Oxford and UCL.

Plant Sciences

The program in figures and numbers

Program statistics	as of December 31
Program students	117
Track I students	19
Track II students	103
Female students	68
Male students	49
International students	87
Swiss students	30
Program drop-outs (in 2015)	4
Completed PhD (in 2015)	17
Program Alumni	Approx. 442
Faculty members (reported only for University of Zurich)	11

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	165	198
Invited candidates	9	6
Drop-outs before interview	1	
Free slots (XX priority program)		
Matches	2	3
Candidates without matches	4	3
Decision against program		
Rejected candidates		
Change to other LSZGS programs	1	
Gained from LSZGS programs		

Finances

	Income	Expenses
Balance January 1	10387	
Income		
ETHZ	23018	
UZH	15183	
Fees	20121	
Other (SUK contribution)	Separate reporting	
Expenses		
Salaries program		38’200
Social benefits		Included in above
Recruitment December 1 (2014)		6018
Recruitment July 1 (2014)		2646.40
Program activities through SUK (retreat, symposia, etc.)		Separate reporting
Overhead (to LSZGS)	10101	10101
Total	78810	56965
Balance as of December 31	21844	

Program Activities

Excellent capacities and experience for carrying out training

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.lifescience-zurich.ch), an international graduate school in life sciences, Swiss Plant Science Web (www.swissplantsciencwweb.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.

Program Curriculum for the PSC PhD Program in "Plant Sciences"

Since 2003, the PSC has offered the PhD Program in Plant Sciences (for 154+ participants[1]) with 20 – 30 ECTS per year of methodological training in several areas of plant sciences and following the international accepted frameworks of joint skills statement, 2001 and Vitae, 2010 for transferable skill training 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 in personal effectiveness (e.g. time management)
- Training of communication skills (e.g. scientific writing, scientific presentation, scientific communication practice)
- Networking and teamwork
- Career management

PhD Program in Plant Sciences – Curriculum

Module	**ECTS**
Mandatory Module: Colloquium "Challenges in Plant Sciences"	2
Mandatory Elective Modules: • Frontiers in Plant Sciences: Intensive Courses on skills, methods and techniques, • Statistical Methods • Transferable Skill Courses organized by PSC or Life Science Zurich Graduate School (Communicating and Disseminating Science / Professional Conduct in Research / Research Management / Career Development / Finance, funding and resources) • Workshops from the specialized PSC PhD Program in Science and Policy	4 - 10
Elective Module: Remainder of 12 ECTS may be chosen from*: • Participation in international scientific symposium with own scientific contribution (oral or poster presentation) (max. 1 ECTS) • Organization of PSC PhD Symposium (max. 3 ECTS) • Other scientific or transferable skill courses	max. 6

* 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 below 20% of all PhD students recruited to the program in 2015.

[1] average annual cohort size 2011-2013

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 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 80% of PSC PhD student population.

Supervision: The supervision is following the regulation of the partner universities and includes: doctoral agreement between supervisor and PhD students is set up 6 month 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 regular. Establishment of these processes in 2015 we can currently report

- 60% of all scheduled thesis committee meetings in 2015 finished in time and 40% delayed by 3 – 6 month at University of Zurich
- 73.4% carried out in time and 26.6% delayed by 1-6 month at ETH Zurich.
- University of Basel will integrate in this quality pipeline in 2016.

Evaluation of the program is continuously done, see
http://www.plantsciences.uzh.ch/teaching/phdplantscience/evaluation.html

Mentoring activities: in the PhD Program in Plant Sciences – targeted introductory events and targeted brown bag lunch events

Mentoring: we started targeted mentoring activities for generating research impact with PhD students' research results in January 2015: 1 introductory event was carried out. This resulted in a very positive feedback from the **13 participants** and in 2 targeted mentoring (of total 16+ hours, on teaching research in secondary classrooms).

Date	Mentoring Activity	Mentor	Nr. Part.
15.09.2015	**Welcome Workshop PSC** (in Zurich)	Dr. M. Paschke, Dr. Carol Rapo, Dr. Luisa Last, Dr. Gouinguené Sandrine, Juanita Schäpfer	13
15.09.2015	**Workshop Session: Tailoring your Teaching** – Lunchtime discussion / Seminar for PSC PhD Students (Mentoring for Research Impact)	Dr. Carol Rapo	8
15.09.2015	**Workshop Session:** Improving Communication Skills with the Public: Theory and practice	Juanita Schäpfer	13

PSC Training 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.

Special Events - PhD Program in Plant Sciences

The PSC has organized one **summer school (as part of the PhD program "Science and Policy)**: **IDP Bridges Summer School 2015 – Tackling Wicked Problems (September 21 to 25, 2015, Einsiedeln, Switzerland)**

Speakers and lecturers: Robin de Carteret, Dr. Martin Reynolds, Dr. Ivo Wallimann-Helmer, Dr. Christian Erik Pohl, Prof. Gerd Folkers, Dr. Claude Garcia, Dr. Anne Drey, Julia Backhaus, Dr. Peter Stegmaier

Frontiers in Plant Sciences Courses Series: Between 2012 and 2015 the PSC received funding for a series of workshops at the frontiers in plant sciences by the SUK "Interuniversity Program" through University of Zurich, ETH Zurich and University of Basel. These workshops are dedicated to applications: i.e. concepts but also tools in these advanced areas:

4 „Frontiers in Plant Science" workshops in 2015:

Frontiers in Plant Sciences: **Introduction to Light Microscopy and Image Processing**, Dr. Gábor Csúcs, Light Microscopy Center (LMC), Zurich

Frontiers in Plant Sciences: **QTL Analysis in Arabidopsis: Theory and practical applications**, Prof. Ueli Grossniklaus, Dr. Samuel Wuest, Prof. Tom Juenger

Frontiers in Plant Sciences: **Visual Analytics of Large-Scale Biological Data**, PD Dr. Kay Nieselt

Frontiers in Plant Sciences: **RNA Sequencing – A practical Course for Plant Scientists**, Dr. Lucy Poveda, Dr. Weihong Qi, Lennart Opitz

Courses carried out in the reporting period

In the reporting period the PSC organized / co-organized 28 courses. We report 317 course visits of PhD students.

Course evaluations are regularly done after every course: 27 courses (=96%) of the total 28 courses (from which evaluation records were available) were rated as 3 to 4 (=fully agree) and 1 (=4%) rated as 3 to 1 (=fully disagree) in "I learned & benefited from this course" and several other aspects.

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

Year	Total Course Nr	Total Participants	Nr. ETHZ	Nr. UZH	Nr. Basel	Other
2015	28	317	119	160	29	9

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

Date	Course	Lecturer	Nr. ETHZ	Nr. UZH	Nr. Basel	Other
02. – 04. Feb	**Chlorophyll Fluorescence – Principles & Applications**	Klára Panzarová, Diana Santelia	2	5	3	0
02 Feb & 16 Mar	**Genetic Diversity – Techniques**	Aria Minder	1	2		1
24 - 27 Feb	**Life Sciences: Next Generation Sequencing – a practical course (DNA)**	Sirisha Aluri, Jelena Kühn-Georgijevic, Lennart Opitz, Lucy Poveda Weihong Qi, Giancarlo Russo, Ralph Schlapbach	0	1	0	0
27 Feb & 27 Mar	**Scientific Writing Practice II***	Penelope Barnett	10	9	1	0
02 Mar & 31 Mar	**Visualizing your Research**	Juanita Schläpfer, Marina Bräm, Tom Reed	6	9	0	1
05 Mar & 08 Mai	**Responsible Conduct in Research**	Prof. Nina Buchmann, Dr. Melanie Paschke	14	1	1	1
09 Mar & 10 Mar	**Concepts in Evolutionary Biology**	Andreas Wagner, Lukas Keller, Kentaro Shimizu, Barbara Tschirren, Wolf Blanckenhorn, Michael Krützen, Anna K. Lindholm Krützen, N. N., Erik Postma	1	2	0	0
21 - 24 Apr	**Life Sciences: Next Generation Sequencing – a practical course (DNA)**	Sirisha Aluri, Jelena Kühn-Georgijevic, Lennart Opitz, Lucy Poveda Weihong Qi, Giancarlo Russo, Ralph Schlapbach	1	1	0	0
24 Apr & 22 Mai	**Scientific Presentation Practice**	Penelope Barnett	6	6	2	0
27 - 29 Apr	**Frontiers in Plant Sciences: Introduction to Light Microscopy**	Gábor Csúcs	4	7	1	0
11 - 12 Mai	**BIO610_Introduction_NGS**	Prof. Kentaro Shimizu, Prof. Jun Sese, Dr. Rie Inatsugi, Dr. Masaomi Hatakeyama, Dr. Heidi Lischer, Dr. Stefan Wyder	3	10	2	1
18 - 19 Mai	**BIO634_Advanced_NGS**	Dr. Stefan Wyder, Dr. Heidi Lischer, Prof. Kentaro Shimizu, Dr. Masaomi Hatakeyama	1	10	1	0
01 - 03 Jun	**Introduction to R**	Dr. Jan Wuder	4	7	6	0
12 Jun & 15 Jun	**Dealing with the Publication Process**	Philipp Mayer, Christian Fuhrer, Melanie Paschke	8	10	2	0
15 - 17 Jun	**Frontiers in Plant Sciences:: QTL-Analysis in Arabidopsis**	Prof. Ueli Grossniklaus, Dr. Samuel Wuest, Prof. Tom Juenger	7	11	1	0
26 Jun - 06 Jul	**Conservation Field Course in Scotland***	Prof. Jaboury Ghazoul	1	1	1	0
20 - 25 Jul	**Alpine Ecology – Summer School on Alpine Plant Life***	Prof. Christian Körner, Prof. Jürg Stöcklin & Dr. Erika Hiltbrunner	1	4	2	1
10 - 12 Aug	**Introduction to Functional Genomics**	Dr. Katja Bärenfaller, Dr. Bernd Roschitzki, Dr. Endre Laczko, Dr. Giancarlo Russo, Andrea Patrignani	2	5	1	0
30 Sep & 03 Nov	**Colloquium – Challenges in Plant Sciences**	Thomas Boller, Consuelo De Moraes, Beat Keller, Chris Kettle, Stefan Hörtensteiner, Bruno Müller, Christoph Ringli, Antía Rodríguez-Villalón, Christian Schöb, Johan Six	16	14	4	1

30.09/ 21.10/ 4.11/ 18.11/ 2.12.	**Seminar on Transdisciplinary Research for Sustainable Development (ETH VVZ: 701-0015-00L)**	Dr. Pohl, Dr. Stauffacher	0	2	0	0
05 - 07 Oct	**Frontiers in Plant Sciences: Visual Analytics of Large-Scale Biological Data***	PD Dr. Kay Nieselt	4	7	0	0
09 Okt & 06 Nov	**Scientific Writing Practice 1***	Penelope Barnett, M.A.	8	11	0	1
12 Okt & 13 Okt	**Introduction to Genome-Wide Association Studies (GWAS)**	Nuno Pires, Arthur Korte, Ueli Grossniklaus	4	2	0	0
05 Nov & 26 Nov	**Genetic Diversity - Techniques**	Dr. Aria Minder	2	1	0	0
10 - 13 Nov	**Frontiers in Plant Sciences: RNA Sequencing – A practical Course for Plant Scientists***	Dr. Lucy Poveda, Dr. Weihong Qi, Lennart Opitz	1	7	0	0
19 Nov & 20 Nov	**Writing a Post-Doctoral Grant**	Dr. Andea Degen, Dr. Melanie Paschke	4	7	1	4
07 Dez & 08 Dez	**Scientific Visualisations using R***	Dr. Jan Wunder	6	8	1	1
10 Dez & 11 Dez	**Introduction to Statistics in Functional Genomics**	Dr. Thomas Wicker	4	7	1	0

Table 3: Course Evaluation 2013: 4 = fully agree, 1 = fully disagree

Course	Number of Questionnaires	The Course was well organized?	The topics covered matched my expectations?	The instructor explained clearly?	Material 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 a lot from the course?	pace? 1 = too slow/too fast, 2 = just right
	#	Average	Average	Average	Average	Average	Average	Average	Average	Average
Introduction to Statistics in Functional Genomics	12	3.17	3.42	3.58	3.27	3.25	3.42	4.00	3.42	1.83
Scientific Visualisation using R	16	3.94	3.63	3.88	3.75	3.69	3.50	3.88	3.63	1.94
Writing a Post-doctoral Grant	16	3.50	3.25	3.44	3.63	3.25	3.38	3.56	3.56	
RNA Sequencing - A practical Course for Plant Scientists	8	3.63	3.63	3.71	3.63	3.25	3.25	3.88	3.75	1.88
Genetic Diversity - Techniques	3	3.67	3.33	3.67	3.33	3.33	3.67	3.67	3.67	2.00
Introduction to Genome-Wide Association Studies (GWAS)	5	4.00	3.80	3.60	4.00	3.40	3.60	3.80	3.80	1.80
Scientific Writing Practice 1	19	3.89	3.63	3.84	3.84	3.85	3.74	3.95	3.89	2.00

Transdiciplinary Research for Sustainable Development	2	4.00	4.00	3.50	3.00	3.00	3.00	4.00	3.50	2.00
Colloquium: Challenges in Plant Sciences	33	3.73	3.06	3.72		2.85	3.12	3.71	3.30	1.93
Visual Analytics of large-scale biological data	11	3.42	3.64	3.67	3.64	3.73	3.80	3.82	3.73	1.91
Introduction to Functional Genomics	8	3.38	2.88	2.88	3.13	2.75	2.50	3.50	2.88	1.88
Ecology of Alpine Plants	7	3.71	3.83	4.00	3.86	3.86	4.00	4.00	3.86	2.00
Conservation Management Field Course	2	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	2.00
QTL-Analysis in Arabidopsis	18	3.56	3.67	3.78	3.41	3.67	3.59	3.94	3.50	2.00
Dealing with the Publication Process	18	3.39	3.44	3.56	3.56	3.11	3.24	3.39	3.44	1.67
Introduction to R	17	4.00	3.41	3.76	3.59	3.65	3.29	3.76	3.53	1.76
BIO634_Advanced_NGS	8	3.63	3.13	3.75	3.38	3.00	3.38	3.63	3.63	1.88
BIO610_Introduction_NGS	16	3.56	3.44	3.25	3.63	3.56	3.25	3.63	3.50	1.94
Frontiers in Plant Sciences: Introduction to Light Microscopy	12	3.58	3.17	3.15	3.33	3.33	3.17	3.50	3.33	2.00
Scientific Presentation Practice	14	3.71	3.57	3.93	3.43	3.71	3.57	3.93	3.79	1.93
BIO395_Concepts in Evolutionary Biology	20	3.40	3.05	3.42	3.42	3.45	3.05	3.60	3.25	1.80
Responsible Conduct in Research	9	2.89	3.44	3.11	3.33	3.44	3.33	3.67	3.33	2.00
Visualizing your Research	13	2.54	2.67	3.00	1.40	3.15	2.85	3.77	3.15	1.77
Scientific Writing Practice 2	18	3.89	3.67	4.00	4.00	3.78	3.78	3.94	3.89	2.00
Genetic Diversity - Techniques	4	4.00	3.25	4.00	4.00	3.50	3.25	3.75	3.50	2.00
Chlorophyll Fluorescence - Principles & Applications	10	3.60	3.70	3.60	3.50	3.60	3.60	3.60	3.50	2.00
Genetic Diversity: Analysis	3	4.00	3.67	4.00	3.67	4.00	3.67	4.00	4.00	2.00

Not all courses are evaluated following the standardized PSC course evaluation sheet.

Colours codes: green – highest possible rating, yellow: below internal benchmark for quality control of 2.5. Feedback is evaluated for improvements.

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 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.

RNA Biology

The program in figures and numbers

Program statistics	as of December 31, 2015
Program students	18
Track I students	7
Track II students	11
Female students	13
Male students	5
International students	12
Swiss students	6
Program drop-outs	0
Completed PhD	0
Program Alumni	0
Faculty members	21

Recruitment

Recruiting statistics	December 1, 2014	July 1, 2015
Complete applications	23	26
Invited candidates	5	5
Drop-outs before interview		
Free slots		
Matches (1 pending)	3	0
Candidates without matches	2	2
Decision against program		
Rejected candidates		
Change to other LSZGS programs		2
Gained from LSZGS programs	1	2

Finances

	Income	Expenses
Balance January 1, 2015	0.00	0.00

Income

SNF Bern	19’874.30	
	20’000.00	
Fees		
Other (transfer from last year)	700.00	

Expenses

Salaries program		0.00
Social benefits		0.00
Recruitment July, 2014		
Recruitment costs interviews Sept. 2015 LSZGS		7’790.00
Recruitment December, 2014		
Recruitment costs Interviews Feb. 2015 LSZGS		5’103.62
Travel costs		31.00
Program activities:		0.00
Balance December 31, 2015	27’649.68	

Program Activities

- NCCR RNA & Disease Summer School `RNA as Target and Drug` Saas Fee, 25-28.8.2015
- RNA Biology PhD program student retreat, Bern, 22.-23.2016,

Science and Policy

The program in figures and numbers

Program statistics	as of December 31
Program students	49
Track I students	26
Track II students	23
Female students	25
Male students	24
International students	38
Swiss students	11
Program drop-outs	0
Completed PhD	6
Program Alumni	9
Faculty members	11

Recruitment

Recruiting statistics	December 1	July 1
Complete applications	60	46
Invited candidates	1	1
Drop-outs before interview		
Free slots (XX priority program)		
Matches	1	0
Candidates without matches		1
Decision against program		
Rejected candidates		
Change to other LSZGS programs		
Gained from LSZGS programs		

Finances

	Income	Expenses
Balance January 1	55’306	
Income		
ETHZ	13200	
UZH	13200	
Fees	10318	
Other (SUK)	Not reported	
Expenses		
Salaries program		EU FUNDING
Social benefits		
Recruitment December 1 (2014)		-
Recruitment July 1 (2104)		599
Program activities (retreat, symposia, etc.), SUK and EU funding		
Overhead	5180	5180
Total	97204	5779
Balance as of December 31	91425	

Program Activities

Excellent capacities and experience for carrying out training

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.lifescience-zurich.ch), an international graduate school in life sciences, hosting 16 PhD programs, Swiss Plant Science Web (www.swissplantsciencwweb.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.

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.

PhD Program in Science & Policy Curriculum

ECTS	Course Title
Total 8	**Mandatory Module**(s): 4 out of 5 modules - Policy Workshops A - F: Course A: Evidence-based Policy-making in Plant Sciences Course B: Stakeholder Engagement Course C: Communicating Science Course D: Building Political Support Course E: Contributing to a Policy Action Course F: Understanding Policy Evaluation
max. 2 - 4	**Elective Module**: Lecture in Basics of Policy Sciences
	Elective Module: Remainder of 12 ECTS may be chosen from: Colloquium 'Challenges in Plant Sciences' (2 ECTS) Participation in international scientific symposium with own scientific contribution (oral or poster presentation) (max. 1 ECTS) Organization of PSC PhD Symposium (max. 3 ECTS) Other research or transferable skill courses
Minimum: 12	

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 50% of all PhD students recruited to the program in 2015.

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

Supervision: The supervision is following the regulations of the partner universities and includes: doctoral agreement between supervisor and PhD student is set up 6 months after the PhD start. Set up of a research plan, establishment of thesis committee with internal and external experts, thesis committee meetings every 12 months 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 2014 we can currently report:

- 100% of all scheduled thesis committee meetings in 2015 carried out in time at University of Zurich
- 96% carried out in time and 4% delayed by 1-6 month at ETH Zurich.
- University of Basel will integrated in this pipeline in 2016.

Evaluation

Evaluation of the program is done via course evaluations. see below.

PSC Training 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.

Special Events - PhD Program in Science & Policy

Events jointly organised with the PhD Program in Plant Sciences:

Mentoring activities: *see Reporting of Plant Sciences program*

Summer school: IDP Bridges Summer School 2015 – Tackling Wicked Problems (September 21 to 25, 2015, Einsiedeln, Switzerland)

Speakers and lecturers: Robin de Carteret, Dr. Martin Reynolds, Dr. Ivo Wallimann-Helmer, Dr. Christian Erik Pohl, Prof. Gerd Folkers, Dr. Claude Garcia, Dr. Anne Drey, Julia Backhaus, Dr. Peter Stegmaier

Past public round tables and panel discussions: Plant Sciences, Patents and Food Security (October 9, 2015, Zurich)

Guests: **Prof. em. Chris Leaver**, Department of Plant Sciences, University of Oxford

Founding trustee «Sense about Science» and senior science advisor « Biosciences for farming in Africa» (www.b4fa.org); **Jayashree Watal**, Counselor in the Intellectual Property Division of the World Trade Organization WTO, Co-editor of Handbook on the WTO TRIPS Agreement (Cambridge University Press, 2012); **Karin Nichterlein**, Agricultural Research Officer at the UN Food and Agriculture Organization FAO, Member of the FAO based Secretariat of the Tropical Agriculture Platform TAP, a G20 Initiative to promote capacity development for agricultural innovation in tropical countries

In collaboration with **Dr. Philipp Aerni**, Director, Center for Corporate Responsibility and Sustainability CCRS, at the University of Zurich; moderated by PhD students of the Science and Policy program

Courses carried out in the reporting period

In the reporting period the PSC organized 5 courses. We report 88 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 Courses	Total Participants	University of Zurich	ETH Zurich	University of Basel
2015	5	88	35	40	13

Table 7: PhD Program in Science & Policy

15.04 & 16.04	**Women in Science**	Dr. Hilde Janssens, Dr. Gerlind Wallon	20
04.05 & 18.05	**Communicating Science**	Jacopo Pasotti, freischaffender Wissenschaftsjournalist und Kursleiter. Daniel Saraga, Wissenschaftsjournalist und managing editor von Technologist	15
12.05 & 13.05	**Introduction to Political Sciences**	Dr. Sarah Bütikofer	15
28.10	**Green business Workshop**	Philipp Winteler	20
5.11. &1.12.	**Building Political Support**	Dr. Sarah Bütikofer, Marcel Falk, Urs Neu	18

Table 3: Course Evaluation 2014: 4 = fully agree, 1 = fully disagree

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	practical	Level of course was according to my needs	Working atmosphere was good	I learned & benefited from this course	1 = too slow/too fast, 2 = just right	Recommendation
		Average	Average	Average	Average	Average	Average	Average	Average	Average	%-Yes
Women in Science	19	3.89	3.63	4.00	3.67	3.89	3.84	3.89	3.79	2.00	100
Communicating Science	13	3.62	3.69	3.77	3.31	3.85	3.54	3.92	3.92	2.00	92
Introduction to Political Sciences	20	3.55	3.00	3.40	2.95	3.25	2.95	3.70	3.15	1.85	65
Green business Workshop	17	3.59	3.12	3.82	3.06	3.35	3.18	3.82	3.59	1.88	88
Building Political Support	18	3.17	3.33	3.33	3.17	3.44	3.28	3.72	3.50	1.89	100

Outlook

The efforts for increasing the visibility of the program in other research fields within the life sciences and student numbers continues. Yet, we acknowledge that it will remain a specialized program for students especially interested in the interface of science and policy.

With the IDP BRIDGING PLANT SCIENCE AND POLICY fellowships (a Marie Curie Initial Training Networks (ITN) funded by the SEVENTH-FRAMEWORK PROGRAMME (FP7) Marie Curie Actions – People) as well as the PSC-Mercator Fellowship Program - Bridging Plant Science and Society, we have the opportunity to create a strong cohort in which also research projects are addressing policy aspects of research, and thus these cohorts' efforts can be more closely tied to the course contents. We intent do continue efforts in opening such fellowship programs, aiming to combine course insights to individual students' projects.

Systems Biology

The program in figures and numbers

Program statistics	as of December 31
Program students	69
Track I students	50
Track II students	19
Female students	27
Male students	42
International students	55
Swiss students	14
Program drop-outs	1
Completed PhD	5
Program Alumni	13
Faculty members	0

Recruitment

Recruiting statistics	December 1 (2014)	July 1 (2015)
Complete applications	56	58
Invited candidates	18	12
Drop-outs before interview	5	2
Free slots (SysBio priority program)		
Matches	5	6
Candidates without matches	5	3
Decision against program (reject offer)	3	0
Rejected candidates (failed interview)	0	1
Change to other LSZGS programs		
Gained from LSZGS programs	1	

Finances

	Income	Expenses
Balance January 1	47’620	
Income		
ETHZ & UZH	30’800	
Fees	5’000	
Other (SUK)	15’800	
Other (SystemsX)	1’600	
Other (Roche)	2’000	
Expenses		
Salaries program		0
Social benefits		0
Recruitment December 1 (2014)		8’907
Recruitment July 1		10’089
Program activities (retreat, symposia, etc.)		21’152
Overhead		
Total	102’820	40’148
Balance as of December 31	62’672	

Program Activities

(i) Introductory course “Mathematical modeling” (conducted by SB program, 6 participants from SB and MTB programs): one week full-time course aimed at biologists to provide background for mathematical modeling methods and applications.
(ii) Course “Technologies and Systems Approaches in Biology” (jointly with MTB program): interdisciplinary two-week full-time course aimed at students with biology, engineering or computational backgrounds to illustrate how concepts of systems biology are used to solve biological problems.
(iii) Advanced course “Computational Biology” (conducted by SB program, 12 participants from SB and MTB programs): two-week full-time course 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).

(iv) Student retreat (organized by students of the SB program, 34 participants): Three-day student retreat in Konstanz, from September 7-9, 2015. Students presented their work in short presentations; keynote speakers of various fields of systems biology gave seminars.
(v) Seminar Series (organized by students of the SB program). Two talks of the SysBio Seminar Series have taken place (one in Basel, one in Zurich). Very good feedback.