EPFL Life Sciences Postdoc Survey 2013

Conducted by the SV Postdoc association of EPFL.

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Summary of survey results

The present survey was conducted in 2013 as a first-time effort to evaluate the experience of postdoctoral researchers at the EPFL School of Life Sciences (hereafter SV). We surveyed research-related activities and scientific output, teaching and training, career prospects after EPFL, gender and family issues and general satisfaction with the postdoctoral experience at EPFL. Globally, the respondent population (62% of the postdoc community) is representative of the postdoc population in SV, thus allowing general conclusions to be drawn and suggestions to be made.

A postdoc is considered an advanced training phase preparing a junior researcher for an independent (and ideally top-level) career in academia or industry. Our survey shows that its success hinges on the quality of training and mentoring received during this formative period. Assessment of supervisor-postdoc communication shows that a majority of postdocs have regular scientific interactions with their supervisor, which is associated with overall satisfaction and a positive career outlook. Laboratory size appears to be related to the quality of supervision, an issue that was also brought up in the Doctoral Survey and may need further addressing. Providing a postdoc mentoring scheme may also help improve the mentoring and career advice received.

Publication output, which determines to a large extent the future career path in academia, proves to be linked to frequency of exchange between postdocs and supervisors, within and between labs and across institutes. Survey data also indicates that postdocs involved in collaborations have more publications and are more likely to attend conferences. Encouraging collaborations through an improved sense of community, more networking opportunities and heightened awareness of intramural research topics may therefore increase publication output.

Mentoring of Master and PhD students should be a key ingredient of postdoctoral training as team management is likely to be part of a postdoc’s next career step. Teaching opportunities beyond lab supervision, i.e. classroom teaching, would also be welcomed by a majority of postdocs as it is a prerequisite for many academic positions.

Our data further highlights the lack of grant writing experience for a large fraction of postdoctoral researchers, a key training ingredient at this career stage. Encouraging more postdocs to apply for personal fellowships when joining EPFL, and providing help with grant applications through the Research Office may improve this aspect.

Strikingly, although EPFL has clear guidelines on authorship and good research practice, a large proportion of the postdoc population is unaware of their existence, which flags issues in the EPFL information dissemination policy.

Career development at EPFL lacks formal evaluation, and seems to rely mostly on postdocs’ proactivity. Postdocs would therefore benefit from access to the Career centre, the alumni relations office and workshops aimed not only at academic careers, but more broadly at transferable skills important for careers outside academia. Female postdocs in particular would welcome a mentoring scheme. Tellingly, only half of the respondents consider their EPFL experience has improved their
employability, which should be a key goal for an internationally visible research and teaching institution.

When asked about global satisfaction, about 80% of postdocs are happy with their choice of EPFL, and would unreservedly recommend EPFL to prospective postdocs. However, only 24% of survey respondents feel part of a community, highlighting the need for more networking and socializing opportunities among postdocs.

To improve the experience of future generations, and in line with existing programs at renowned international institutions elsewhere (http://www.postdoc.harvard.edu/, http://postdocs.stanford.edu/, http://www.embl.de/training/postdocs/), we recommend the implementation of an International Postdoctoral Program in Life Sciences to respond to the needs this survey highlighted, notably:

• Provide an information portal to better inform prospective and current postdocs about available opportunities at EPFL catering to the various training needs (teaching, mentoring, soft skill workshops, courses, grant writing)

• Foster interactions, collaborations, networking, and a sense of community

• Prepare postdocs better for their next career steps, within and outside academia, through courses, workshops, career centre, mentoring schemes
Executive summary

The present survey was conducted in 2013 as a first-time effort to evaluate the postdoctoral experience of researchers in the EPFL School of Life Sciences (hereafter SV). We surveyed research-related activities and scientific output, teaching and training, career prospects after EPFL, gender and family issues and general satisfaction with postdoctoral research at EPFL. Globally, the respondent population (62% of the postdoc community) is representative of the general postdoc population in SV, and allows conclusions about crucial factors shaping the postdoctoral experience.

The following points emerged from our survey, and may provide a framework for implementation of a postdoctoral program.

• Career outlook improves with supervision and mentoring by the principal investigator (PI). Mentoring schemes would be desired in particular among female postdocs.
• Interactions with the PI are in general frequent (at least once per month) except in larger labs (>20 people), an issue also perceived by doctoral students (Doctoral Survey, R Tormey).
• Publication output is higher for postdocs with regular PI interaction, numerous collaborations, awareness of intramural research and involved in supervising students.
• Grant writing experience is lacking for the majority of postdocs, application for personal fellowships could be more encouraged, with more help from the Research Office.
• Research ethics are not clearly communicated at EPFL and a large proportion of the postdoc population is unaware of authorship and good research practice guidelines.
• Career development at EPFL lacks formal evaluation, and seems to rely mostly on postdocs’ proactivity. Postdocs would benefit from access to a Career centre, the alumni relations office, transferable skills training, and possibly a formal evaluation of career goals and progress.
• Half of the respondents considered their EPFL experience had improved their employability, and 80% would unreservedly recommend EPFL to prospective postdocs.
• Only a small minority of postdocs feel that they are part of a community at EPFL.

To improve the experience of future generations, and in line with existing programs at prestigious international institutions elsewhere (Harvard, Stanford), we recommend the implementation of an International Postdoctoral Program in Life Sciences to respond to the needs this survey highlighted, notably:

• Provide an information portal to better inform prospective and current postdocs about available opportunities at EPFL, catering to the various training needs (teaching, mentoring, soft skill workshops, courses, grant writing)
• Foster interactions, collaborations, networking, and a sense of community
• Prepare postdocs better for their next career steps, within and outside academia, through courses, workshops, career centre, mentoring schemes

Recommendations: implementation of an International Postdoctoral Program in Life Sciences (iPPLS) at EPFL

To improve the experience of future generations, and in line with existing programs at prestigious international institutions elsewhere (http://www.postdoc.harvard.edu/, http://postdocs.stanford.edu/, http://www.mfpl.ac.at/vips/program/vision/, http://www3.imperial.ac.uk/staffdevelopment/postdocs1, http://www.embl.de/training/postdocs/), we recommend the implementation of an International Postdoctoral Program in Life Sciences (iPPLS) to respond to the needs this survey highlighted, notably:

• Provide an information portal to better inform prospective and current postdocs about available opportunities at EPFL catering to the various training needs (teaching, mentoring, soft skill workshops, courses, grant writing)
• Foster interactions, collaborations, networking, and a sense of community
• Prepare postdocs better for their next career steps, within and outside academia, through courses, workshops, career centre, mentoring schemes

The roles of this program could be centred around three axes, training & mentoring, career planning and community/networking, as listed below:

1. community/networking
   • Welcome new postdocs
   • Organize a yearly postdoc retreat to foster interactions, networking, socializing and collaborations.
   • Offer a platform to support postdocs experiencing problems.
   • Keep track of all the postdocs, creating a "Postdoc-Alumni" database for future networking.

2. Training & mentoring
   • Define the goals of a postdoctoral stay: implement a yearly assessment plan
   • Inform postdocs about the hard skills training delivered by the various platforms of the School
   • Encourage postdocs to improve their soft skills by taking part in the workshops organized by HR SFP and the SV Postdoc Association. Postdocs should be formally allowed to take 2 days/year for this type of training.
   • Encourage postdocs to learn French, in order to improve their integration and their employability in the Swiss job market.
   • Offer postdocs the possibility to perform classroom teaching, in addition to student supervision, and encourage postdocs to follow training for teachers available through the Teaching Support Centre (CAPE).
   • Ensure that postdocs supervising master students are officially part of the thesis committee.
   • Encourage female postdocs to take part in the fix-the-leaky-pipeline program.
3. Career planning

• Ensure that postdocs receive help from the Grants Office in writing their own fellowships.
• Encourage postdocs to attend workshops on grant writing, and participate in grant writing in their lab.
• Allow postdocs to access the EPFL Career Centre

Implementing this program constitutes little work, as most of it is already in place. The SV Postdoc Association is currently hosting a webpage, http://sv-postdoc.epfl.ch/postdoc_program, which recapitulates what is already available for postdocs in the School of Life Sciences in terms of welcome, fellowships, training, seminars, socializing, being part of a community, getting support, mentoring and general advice when leaving EPFL. In addition, http://sv-postdoc.epfl.ch/problems helps postdocs find adequate support in case of problems, and http://sv-postdoc.epfl.ch/welcome helps newly arrived postdocs getting their bearings. The SV Postdoc Association also organizes several one-day workshops, several career/leadership/social events and a two-days postdoc retreat. The association has the support of the HR /SFP program for implementing courses on an on-demand basis. Hence, it appears that the School of Life Sciences, via its postdoc association and the training opportunities available at EPFL, already offers a training framework to postdocs, which is comparable to official Postdoctoral Programs at other universities. The School of Life Sciences is also currently thinking of offering postdocs the possibility to teach. The few things that are still currently missing concern access to the career centre and an alumni database.

Advantages compared to the current situation:
We recommend that the School of Life Sciences implements officially an International Postdoctoral Program in Life Sciences (iPPLS), whose duties could be shared with the SV Postdoc Association. The advantage compared to the current situation would be to create de facto a sense of community and have clearer rules for all postdocs regarding access to training, attendance of workshops and deliverable goals on both trainee and mentor sides. The School of Life Sciences would be responsible for advertising the program on its website (http://sv.epfl.ch/), which would improve international visibility and attract scientific excellence.
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**Introduction**

The Postdoc Survey is the first survey of this kind conducted at EPFL and aimed at reaching out to all postdoctoral fellows within Life Sciences, i.e. researchers holding a PhD and working on a fixed-term contract for a PI. The questionnaire was worked out by the SV Postdoc association and reviewed by the Deputy to the Dean of Life Sciences, Harald Hirling, and the Dean, Gisou van der Goot, before submission to the postdoctoral community of SV.

The questionnaire is largely based on the Sigma Xi Postdoc Survey (Davis 2005) carried out across US research and teaching institutions, whose aim is “to improve the training and research environments for postdocs by providing a better understanding of their experiences.” This should “enable research institutions to benchmark their policies and practices against those at peer institutions.”

At EPFL, the postdoctoral community did not yet have organisational or associative structures until 2012. There is a clear need to assess the experience of postdoctoral researchers at EPFL and to set up an action plan for training, progress assessment and career development structures for postdocs, similar to the existing Doctoral School for PhD students. The questionnaire therefore particularly emphasizes areas of scientific supervision, scientific output, communication within groups, departments and the EPFL community, teaching and mentoring, as well as career development and career prospects of postdocs after EPFL, and overall satisfaction with working at EPFL.

The expected outcomes of this survey were to delineate guidelines towards improving life for the postdoctoral community of the EPFL School of Life Sciences, and potentially reveal issues relevant to all postdocs from EPFL.

The survey was open over a period of four weeks (from October 15th to November 15th 2013) and reminders were sent out until a workable proportion of respondents had been attained (103 responses representing 62% of Life Sciences postdocs). Data analysis was carried out by the SV postdoc association, with advice from Roland Tormey of the Teaching Support Centre (CAPE) who authored the Doctoral survey (Tormey R 2012). Before this survey, 92% of the target audience had already heard of the SV postdoc association, and over two-thirds of respondents had already attended events organized by the association (see raw data in appendix for all numbers quoted without graph).

A detailed analysis for all significant correlations is available as a searchable PDF document on the SV postdoc association website, together with the raw data. The list of survey questions and possible answers is provided at the end of this document in the Appendix.

**Overall metrics and validation of representativeness**

To validate representativeness of the respondents, population statistics on the postdoctoral community of SV were communicated by the Knowledge and Information Services (KIS) of EPFL. Before analysing our survey results, we tested whether our respondent population (103, or 62%) was representative of the overall postdoc population. According to the Statistics service at EPFL
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(“Statistiques de la Formation”), there were 166 postdocs employed by the Life Sciences department at the time of the survey. Nationality distribution among survey respondents is representative of the SV distribution, with 7% of respondents Swiss, 67% European, and 26% from overseas (Figure 1). Survey respondents were uniformly distributed over the four institutes, IBI (Interfaculty Institute of Bioengineering), ISREC (Swiss Institute for Experimental Cancer Research), GHI (Global Health Institute) and BMI (Brain-Mind Institute). There were fewer female respondents (41%) than males (59%), which reflects the overall gender distribution in Life Sciences. 45% of respondents have been a postdoc for less than 2 years, 33% have been postdocs between 2 and 4 years, and 22% have worked as postdocs for over 4 years. Although EPFL has a 4-year cap on postdoctoral contracts, extensions to 5 or maximally 6 years are possible and reasonably frequent, explaining this part of the respondent population.

We assessed further population metrics but could not validate their representativeness because of missing availability of SV-wide data. Among these were group size and career stage of PI, number of postdoc positions held before joining EPFL, and work experience outside academia (Figure 2).

65% of respondents work in mid-sized groups (10-20 people), 19% count less than 10 collaborators, and 16% work in groups with over 20 people. Half of the respondents’ PIs are mid-career, the other half is evenly split between early career group leaders (less than 8 years after postdoc) and senior/seasoned PIs (less than 10 years till retirement). For 70% of respondents, the present postdoc position is the first after completing a PhD, and the overwhelming majority (94%) has not worked outside academia between PhD and postdoc.

Research-related activities

Communication and supervision

While PhD students are embedded in a clearly defined structure of regular progress assessment, postdocs are carrying out autonomous research that may or may not overlap with research in their lab. We were interested in measuring the extent of information flow within groups, and whether it related to the scientific output of postdocs.

Three quarters of the labs (76%) have weekly lab meetings, but still 10% (n=10) meet less than once a month to formally discuss science (Figure 3). 60% of labs also organize a journal club (Figure 3) and in general, these are the same groups that meet frequently (Figure 3). Frequency of lab meetings and journal club varies across institutes, with the vast majority of infrequently meeting groups being part of IBI. In contrast, about 90% of respondents from ISREC have both regular group meetings and journal clubs. The frequency of lab meetings and journal clubs is further associated with group size and the principal investigator (PI)’s career stage. Larger groups (>20 members) and late stage PIs (<10 years to retirement) meet more rarely and sometimes tend to drop group meetings altogether (n=6) (Figure 3). We note that late-stage PIs are supervising almost a quarter of the interrogated population and the majority of Swiss nationals (Figure 3).

Interestingly, the frequency of group meetings associates with a whole range of measures, including awareness of the topics addressed in the group (Figure 3), scheduled or informal discussion
with the supervisor (Figure 4), relationship with the supervisor (Figure 4), willingness to continue an academic career (Figure 14) and general satisfaction (Figure 17). Also, postdocs from labs meeting on a rarely basis (less than once a month) have at best a single first-author publication. In contrast, postdocs having authored several publications meet at least once a month with their group (Figure 3). Overall, 79% of respondents claim they are familiar with the work going on in their own group (Figure 3). ISREC, which had the best frequency of group meetings, also shows the best intra-group familiarity with research, and IBI, some of whose groups met rarely, shows lowest awareness of co-workers’ research topics.

About half of the postdocs (46%) have at least one monthly scheduled meeting with their PI, and a similar proportion (42%) meets at least once every 6 months (Figure 4). That leaves 13% (n=13) who rarely ever talk to their PI. Most postdocs (86%) also cross their PI’s path at least once a month and informally discuss their work, which again leaves 14% (n=14) of postdocs without any feedback from their PI for extremely long periods of time (Figure 4). Lack of regular group meetings is associated with low frequency of informal discussions, meaning that PIs who do not hold group meetings do not seem to compensate for this lack of organized scientific exchange with informal chats (Figure 4). Again, there is a clear relation between group size and frequency of interaction between the respondents and their PIs, with larger groups showing consistently less opportunity for discussion (Figure 4). We note that while there is the potential of compensating for this through the presence of a senior scientist in the lab, this is only the case for about half of the labs (Figure 4), and groups with >20 members are not more likely to have such a scientist than groups with 10-20 members. It is also telling that frequency of scheduled and informal meetings improves likelihood of interactive activities between PIs and postdocs such as reviewing grants or helping with expanding the postdoc’s network (Figure 4).

Finally, over 80% of the respondents rated the relationship with their supervisor as satisfactory or excellent. While the PI’s career stage per se does not influence the postdoc-PI relationship, there were clear associations between frequency of lab meetings, general satisfaction and career outlook and this relationship (Figure 4). For instance, none of the postdocs that have not had a group meeting in over six months (n=6) reported their relationship to be “excellent” and very dissatisfied postdocs had either non-satisfactory or broken relationship with their PIs (Figure 4). Also, the majority of postdocs rating the relationship with their PI as excellent or satisfactory acknowledged that their PI helps them expand their network (Figure 11), that they were supported in alternative career choices (i.e. outside academia) (Figure 15) and that they were helped with career advancement in general (Figure 13). Hence, if the relationship with the PI was perceived as excellent or satisfactory, postdocs were more likely to have a positive outlook on their chances of academic success, were more likely to feel (very) satisfied with their time at EPFL and were highly likely to unreservedly recommend EPFL to other postdocs (Figure 4 and 17). Respondents who reported a non-satisfactory or broken PI relationship would still recommend EPFL but not in their particular lab (Figure 17).

Together, these replies show that regular formal and informal scientific interactions most often go together with a good relation between postdocs and their supervisors, and at the same time, are associated with increased overall satisfaction and a positive career outlook. Importantly, the association between lab size and the frequency and quality of supervision also emerged from the
Doctoral Survey. While it may not be feasible to cap lab size, it remains nonetheless an issue that needs addressing to maintain a high quality of training for young researchers at EPFL.

**Funding**

Grant writing experience is a crucial training aspect for postdocs wanting to continue with academic research. Most labs in SV are funded through SNF and/or ERC program grants and not all postdocs need to bring their own fellowship when joining. We wanted to investigate the funding landscape among postdocs and how it related to scientific output and satisfaction. 30% of postdocs were asked to bring their own fellowship when joining EPFL, and 29% are currently on their own grant (Figure 5). Over half of respondents have applied for funding or are planning to do so while at EPFL (Figure 5), with about three-quarters of non-EU nationals planning to do so. Postdocs in ISREC were asked most frequently to bring their own fellowship, as opposed to BMI where most do not need to do so. Consistently, ISREC has the highest percentage of postdocs on their own funding, with just above 10% of BMI postdocs holding a fellowship (Figure 5). Mid-size labs (10-20 people) are more likely to ask postdocs to bring their own funding (Figure 5). Interestingly, postdocs with own fellowships meet more often and have a better relation with their supervisor compared to non-self-funded postdocs (Figure 4). They also have a slightly more optimistic outlook on success than those without (Figure 14).

About half of all postdocs have been asked at some stage by their PI to help with grant writing (Figure 5), but only 3% of respondents complain about spending too much time on it. All of those feeling overloaded with grant work are married with children, indicating that maybe PIs should refrain from heaping grant writing duties on postdocs with family obligations (Figure 5). Additionally, over a quarter of very dissatisfied postdocs consider that they spend too much time on grant writing, perhaps indicating a path to improve their overall experience (Figure 5). In general, Swiss postdocs and females tend to be less involved in grant writing, in particular compared to non-EU nationals.

Only a minority of postdocs (11%, all from the EU) have also been asked by their PI to review an external grant (Figure 5). Interestingly, PIs sharing the grant reviewing task with their postdocs were also more likely to have frequent scheduled meetings with them (Figure 4). In addition, being solicited for grant reviewing is also associated with the number of review articles co-authored (Figure 5). Possibly, this may simply reflect the postdocs’ seniority.

In summary, while it is an asset of EPFL to have well-funded labs, grant writing experience remains a key element of postdoctoral training which is currently missing in a considerable part of the postdoc population. Together, the figures show that although postdocs applying for and holding a fellowship have more and better interaction with their PI as well as a more optimistic career outlook, only the minority of life science postdocs go through this process, in particular at BMI. However, about half of all respondents are involved in trying to secure funding for the lab, and some of those with family obligations may not afford to do so time-wise.

**Publication output**

Publication metrics remain the number one evaluator for scientific productivity, so it is unsurprising that they associate with overall satisfaction (Figure 6) and career optimism in academia (Figure 14). Most publication variables improve with postdoc seniority (Figure 6); oddly enough, the
fear of leaving without a first or non-first author publication also increases with time at EPFL. Only 5% of postdocs (n=5) expect no first-author publication from their time at EPFL (all of these are female), 7% (n=7) think they will not have any non-first author publication from the lab, and 50% guess they will not produce a literature review while at EPFL (Figure 6). Interestingly, male postdocs have a healthier optimism than their female counterparts as to expected publications, partially brought about by differences in the number of already published papers (Figure 6). Over half of the respondents did not yet have any first author publication from their time at EPFL, with almost three-quarters of females, EU nationals, and postdocs with partners falling in this category (Figure 6). In general, the number of first author publications correlated with non-first author publication (Figure 6). Only about 30% of respondents had published a review and none of the “very dissatisfied” ones had (Figure 6).

Unsurprisingly, postdocs who expect to publish well are more likely to be (very) satisfied with their stay at EPFL (Figure 6), and labs known to have no or few postdocs leaving without publication produce more satisfied postdocs (Figure 6). In fact, awareness of postdocs leaving without any publication is associated with frequency of group meetings (Figure 6), and is higher at IBI compared to the other three institutes.

So what makes for a positive outlook on publication chances? Frequent group meetings are associated with higher publication metrics (Figures 3 and 6). Postdocs who mentor Master or PhD students are also more likely to expect several first authorship articles than postdocs who do not (Figure 10). In general, having a supportive PI associates with having two or more publications: those postdocs who have two or more first-author papers also get more help from their PI with career advancement and with networking (Figures 11 and 13). Having clear authorship rules in the group also improves publication outlook (Figure 6): in labs with clear authorship rules, postdocs are more likely to have and to expect several publications.

55% of postdocs are peer-reviewing papers with their supervisors, a task that is associated with their seniority in the lab (Figure 6). Postdocs that are in groups having regular meetings are more likely to be involved in peer-review, as are postdocs giving a greater number of talks, attending more conferences and having more collaborations (Figure 6). Peer-reviewing activity correlates with publishing expectation: postdocs who are asked to help with peer reviewing tend to expect more first-author articles (Figure 6).

In summary, assessing what impacts publication metrics remains a difficult task. Regarding expectations, our survey revealed differences based on nationality, gender, overall satisfaction and frequency of lab meetings, suggesting that cultural and gender factors as well as scientific interactions play a role. Interestingly, while female postdocs, dissatisfied postdocs and those not having had a single lab meeting in the past six months, have also published fewer first-author articles than their respective counterparts, this is not the case for Swiss postdocs, whose publication number does not reflect their lower expectations.

Research practice at EPFL

36% of postdocs claim their lab has a clear policy on how authorship is allocated, 26% say their lab does not, and the remaining 38% are unaware of whether rules exist (Figure 7). There are
some small differences across institutes with regard to authorship policies, and most strikingly, large
groups tend to lack clear rules. Indeed, while over 60% of postdocs working in groups with less than
10 people stated that they are subject to authorship rules, only about 15% of the ones working in
groups of ≥20 people did so. Interestingly, having a clear set of rules positively associates with
publication output (Figure 6) as well as relationship with the supervisor (Figure 4). We note here that
EPFL published a “Directive concerning research integrity and good scientific practice at EPFL” on
May 1ст, 2009, which “defines the rules, based on long experience, that apply to EPFL researchers
in all disciplines”. The directive includes guidelines on authorship and is freely available to the EPFL
community at http://research-office.epfl.ch/integrity.

Over half the respondents are not aware of any regulations preventing scientific misconduct,
while only 35% say their institute has a clearly advertised policy (Figure 7). Strikingly, only 10% of GHI
members are aware of such rules. As noted above, clearly defined guidelines for good research
practice do exist at EPFL and are accessible to the community. Strangely, postdocs who have recently
joined (<2 years) claim their institute has rules on misconduct, while seasoned postdocs (>4 years)
are most likely to claim their institute does not. Similarly, the more articles respondents have
published, the less aware of scientific misconduct rules they are likely to be (Figure 7). This may be
due to the recent implementation of a print-out of research directives in the postdoc welcome
package.

Half of the postdoc community also has not attended a bio-ethics course while at EPFL
(Figure 7). Those that have tend to be in the IBI or the BMI, possibly reflecting more intense use of
vertebrate animal models in these institutes. (Figure 7) Again, postdocs that have joined the EPFL
more recently are more likely to have attended bio-ethics classes.

The rather wide-spread ignorance about clear authorship rules, good laboratory practice,
scientific misconduct and research ethics calls for improved communication of existing regulations
and/or implementation of relevant courses, in particular for those who have not joined EPFL
recently.

Conference attendance, talks, seminars and collaborations

Apart from written communication, postdocs need to increase their network and visibility
through talks, seminars and conferences. In the School of Life Sciences, postdocs have a number of
opportunities within their institutes (other than group meetings) to present their work to their peers,
at floor seminars, departmental seminars or retreats. 72% of respondents had given at least one talk
within their institute over the last year (Figure 8). The GHI is the most “talkative” institute, where no
respondent had missed the opportunity to talk. Respondents from the IBI were more likely to have
given zero or 1-2 talks over the year.

38% of respondents had not had the opportunity to orally present their results outside the
institute last year (Figure 8); as this held true for any postdoc stage, these are not necessarily early-
stage researchers. 46% of respondents gave 1-2 talks, and 16% were solicited more than twice
outside their institute. Strikingly, none of the postdocs reporting absence of group meetings in the
last six months gave a talk outside EPFL in the last year (Figure 8).
76% of respondents had attended at least one national or international conference over the last year, and the number of conferences attended increased with number of first author publications (Figure 8). Those postdocs that frequently attended conferences (>2 per year) were much more likely to be asked to peer review literature with their PIs (Figure 6), and were more likely to rate their PI-postdoc relationship positively (Figure 8). There were differences among institutes, with 90% of ISREC postdocs most likely to have attended at least one conference, while this was true for only just over 40% of IBI postdocs (Figure 8).

Another essential aspect of increasing one’s professional network and visibility is to build collaborations that will ideally last beyond the postdoc stay at EPFL. A prerequisite for intra-institutional collaborations is to know (vaguely at least) what is going on next door. 90% of respondents claim they are aware of research topics outside their own lab (Figure 9). Only 2% (n=2) of respondents claim they have a formal veto to collaborate outside of their group (Figure 9). 17% do not know their PI’s opinion on collaborations, and the remaining 82% are allowed to collaborate outside their group after discussing with their PI (Figure 9). Those unaware of their PI’s stance are unlikely to have >2 collaborations, but do still collaborate outside their group (Figure 9). Those that are aware of the option to collaborate are more likely to have multiple collaborations ongoing (Figure 9). Interestingly, the number of collaborations correlates with the number of published first author articles (Figure 9). Postdocs with more numerous collaborations are also more often asked to peer-review (Figure 6).

In summary, we may infer that collaborative efforts yield more publications in today’s collaborative world, and result in higher visibility, since postdocs with more publications are more likely to attend conferences.

Teaching and training

Teaching opportunities for postdocs at EPFL

For postdoctoral researchers, teaching is officialised in the work contract as “supervision of projects of Master and PhD students”. Currently SV postdocs are only marginally involved in classroom teaching, while teaching, particularly tutorials and practical sessions, is mandatory for PhD students, who thereby gain credits towards completion of their PhD diploma. In many labs, PhD students complain about increased teaching loads – respondents to the Doctoral Survey claim they spend, on average, 15% of their time on teaching (Doctoral Survey 2012, up from 12% in 2005). Conversely, postdocs applying for assistant professorships may be penalized for not ticking the teaching box on their CV.

Among the postdoc survey respondents, 18% teach practical sessions, tutorials or exercise sessions, and only 18% have had plenary lecture experience. 64% of postdocs do not teach at all (Figure 10). There are substantial differences between institutes, with IBI and BMI postdocs tending to teach more than ISREC’s and GHI’s, in particular when it comes to plenary lectures, while only 20% of ISREC and GHI postdocs are involved in teaching, mainly in the context of practical sessions or exercises (Figure 10). A lower fraction of postdocs that have an own fellowship teach, and the likelihood of being involved in teaching increases with the number of non-first author articles published. However, results from a “Question of the Month” poll on the SV postdoc association
website show that only 10% of postdocs do not want to teach at all, or have to teach but would rather not (3%). Another recent survey responded by 67 postdocs of SV highlighted that 75% and 73% of them would like to teach in exercises sessions and practical sessions, respectively, and that 25% of them have already been involved in teaching as a postdoc at EPFL. Altogether, these results indicate that there is untapped teaching potential among the postdocs. Worryingly, none of the postdocs that would ideally opt for a teaching career are involved in any teaching activities (Figure 10).

Postdocs who were offered to mentor Master or PhD students are more numerous (67%), with an even higher fraction at IBI (78%) (Figure 10). Those supervising junior researchers are slightly more likely to have published more 1st author publications, and this is not associated with number of years at EPFL (Figure 10).

In summary, it appears that teaching and mentoring both associate with increased publication metrics, either as non-first author or as first-author, respectively. Hence, while the majority of postdocs are already involved in student mentoring, postdocs should also be given more frequent opportunities to teach if they wish to.

Networking and mentoring

We next assessed how postdocs expanded their professional network while at EPFL. 55% of respondents claim their PIs help them create and expand their network, with more men, non-EU respondents and more recent postdocs answering “yes” to this questions (Figure 11). Importantly, help with networking was highly related to the overall relationship with the PI as well as with overall satisfaction (Figure 11). Postdocs who received help with networking were also more likely to have more frequent lab meetings (Figure 4). Postdocs having more first author publications and several collaborations acknowledged that their PIs helped expand their network (Figure 11).

Assuming a positive impact of mentoring and guidance during the postdoctoral training phase, it is surprising that 47% of all respondents claim they do not have and do not want a mentor (possibly because they belong to the 86% who are happy with their PI) (Figure 11). 31% say they do not have an external mentor, but would want one, and the remaining 23% already have a mentor, who can be a group member, someone at EPFL, or someone external.

The need/wish for an external mentor is stratified by nationality. Swiss postdocs are most likely to have an EPFL mentor, while non-EU postdocs are more likely to have external mentors, possibly because foreign postdocs that come to EPFL keep their ties with PhD supervisors or senior lab colleagues from before, and can seek advice from them. Interestingly, this does not seem to be the case for non-Swiss European Postdocs, a much higher fraction of which feels the need for a mentor. Whether the PI is supportive of an alternative career was a strong indicator of whether postdocs liked to have a mentor, as was the number of published papers. We could speculate that postdocs with a publication record that does not set the premises for an academic career struggle when their PI is not supportive of alternative paths and thus would highly benefit from having a mentor (Figure 11).
Career development at EPFL

While PhD students follow a rigid schedule of set assessments and deliverables within the frame of their Doctoral School, postdocs navigate their training independently. We asked whether some PIs were setting more formal goals and evaluating their postdocs’ progress. 72% of postdocs have no goals or evaluations set throughout their postdoctoral training, a percentage that is even lower in BMI and large groups (Figure 12). Respondents with a good relationship with their PIs, those that have more frequent group meeting, clear authorship rules in the group and members of groups under 20 people were more likely to have formal goals (Figure 12).

Although there is currently no set career development program for postdocs, a variety of non-mandatory training options are available through EPFL. 47% of postdocs have made use of experimental skills training offered by the Core Facilities, 37% have attended soft skills and professional development courses offered through the HR Department and the Language Centre, and 16% have been to external workshops and courses (e.g. EMBO) (Figure 12). ISREC and IBI postdocs have taken preponderantly experimental skills courses. In contrast, soft skills and experimental skills courses are similarly popular among BMI and GHI postdocs (Figure 12).

The fact that career and personal development courses are attended by just over a third of postdocs seemed worth investigating in detail. When asked what was keeping postdocs from attending these courses, only 2% (n=2) answered they were actively discouraged from taking the course (Figure 12). Those respondents not allowed to attend soft skills training are exclusively in ISREC and IBI, and in labs that are known to have had postdocs leaving without any publication (Figure 12). Unsurprisingly, those not allowed to go to courses are (very) dissatisfied with their postdoc experience and would only recommend EPFL to postdocs if they joined another lab (Figure 12). Those that are attending soft skills courses (43% of all respondents) are those with more involved PIs/regular group meetings (Figure 12). 55% of respondents have never tried taking a course although they know of their existence (Figure 12). Perhaps this might be linked to the time pressure imposed by the 4-year postdoc policy, since the majority (68%) of postdocs claim they would want to stay longer if given the opportunity. Interestingly, postdocs with no publication seem to be least bothered with the 4-year policy and set to move on (Figure 12).

Career prospects after EFPL

The postdoc experience should ideally prepare young researchers for an independent career in academia or give a good head-start (better than PhD) for jobs in industry. We wanted to know how postdocs viewed the impact EPFL had on their overall career chances after leaving.

Only 15% of postdocs claim their PI actively helps with the next career move, bringing job opportunities to their attention (Figure 13). 48% of postdocs get support from their PI but they need to be proactive themselves, and 41% have no help whatsoever. We note that the majority of female respondents felt that their PI is not helping with career advancement, unlike their male counterparts, who felt that with an extra effort from their side, they do get help (Figure 13). Further, postdocs with over two first author publications and with a very good relationship with their supervisors felt more that they were getting career support (Figure 13). This was the case for both academic and alternative career support (Figure 15).
Given that EPFL career development structures and alumni services are restricted to (PhD) students, these numbers leave at least half of the postdocs to fend for themselves. Indeed, an overwhelming percentage (84%) of postdocs claim they would like to have access to a career counselling service; there is a clear gender bias with females more inclined to seek career help (Figure 13), likely related to the perceived lack of support from their PI.

70% of respondents were doing their first postdoc after PhD and 94% had never worked outside academia so far (Figure 2). The majority (69%) embarked on a postdoc as the obvious next step from PhD into academia (Figure 13). 21% plan to continue in non-academic research, and less than 1% (n=1) of postdocs want a non-research teaching job. The rest are undecided yet, possibly because they are too early in their postdoc step. A higher percentage of postdocs that are either male, Swiss, fellowship holders, or have published over two first author papers, have frequent group meetings, have expanded their network thanks to their PI and feel limited by the 4-year policy, respectively, will opt for an academic career (Figure 14). Overall, as much as 80% of respondents claim they would want to continue in academic research if they had the opportunity.

**Careers in academia**

Since chances of succeeding in academia are notoriously slim, we asked how postdocs realistically see their chances of success: only 25% think their chances are good to excellent, 40% rely on a lucky break to continue and 35% say their chances are slim (Figure 14). 55% of respondents believe their current postdoc has improved their employment perspectives in academia (Figure 14). Chances of academic success are judged more optimistically by non-EU respondents, postdocs having joined EPFL more recently, having a fellowship, frequent group meetings, and by those considering their postdoc to have improved their employment opportunities (Figure 14).

Just over half of postdocs consider that their experience at EPFL has improved their employment perspectives, while about one third of respondents cannot assess whether this is the case, with over half of IBI respondents falling in this category (Figure 14). More than double as many women compared to men feel that their stay at EPFL has not helped in their career progress (Figure 14). Postdocs who expect multiple (two or more) publications, have multiple (two or more) collaborations, as well as those that are overall happy with their experience at EPFL are more likely to consider that their present postdoc has improved their chances of academic success (Figure 14).

**Careers outside academia**

Switzerland has one of the densest life sciences industry landscapes in Europe, so we also expected numerous postdocs to look for careers in industry. Only 29% of respondents think their current postdoc improved their employment perspectives in the pharmaceutical industry; 42% think it did not, with the rest being unable to assess the answer (Figure 15). 68% of postdocs claim their PI is supportive of alternative career choices (e.g. in industry, science communication or administration) (Figure 15). Postdocs with PIs that supported career moves outside of academia were more likely than others to have multiple first and non-first authorship articles, and these labs tended to have less people leaving without publications (Figure 15). Postdocs who felt encouraged to pursue non-academic careers had better relationships with their PIs (Figure 15). In parallel, postdocs with
alternative-career friendly PIs were more likely to have an additional mentor, either in the group, at EPFL, or outside EPFL (Figure 11). Postdocs who received no alternative career encouragement were most likely to express the need for an external mentor (Figure 11). PIs that encouraged non-academic careers also were more likely to help generally with career advancement (Figure 13).

Only 40% of respondents have attended a career fair or similar event; those who haven’t are most likely to come from BMI. Only 15% of respondents have to take a day off to attend these kinds of events.

Family and equal opportunity issues

A short reminder: gender distribution among life sciences postdocs is 59% males and 41% females (Figure 1). Gender affects academic aspirations and perceived career prospects in academia (Figure 14), possibly based on males more likely than females to publish and also expecting to publish multiple first and non-first authorship articles (Figure 6). Females were more likely than males to fear that they would leave EPFL without a single publication, first or non-first (Figure 6). Males were more likely to have over two collaborations ongoing (Figure 9), or to have given talks outside the institute (Figure 8), while females were more likely to be mentoring students in the lab (Figure 10). Females were also more likely to claim that their postdoc had not improved their career chances in non-academic careers (Figure 15).

Proportionally more female than males felt that their PIs did not help with career advancement at all, or only did so when requested to (Figure 13). Males were more likely than females to state that their PIs helped with their career if they were proactive themselves. This may be related to the fact that males had more frequent scheduled meetings with their PIs and were more likely to rate their relationship as excellent (Figure 4). Unsurprisingly given these associations, more females than males would welcome access to a career counselling service or to an assigned mentor (Figure 11 and 13). Finally, although females felt more part of a community at EPFL than did males, there is a stronger tendency among male postdocs than among female ones to unreservedly recommend EPFL to prospective postdocs (Figure 17).

Given the multifactorial nature of the question, it is difficult to assess how gender differences affect the general perception of the “EPFL experience”. Differences may originate at least in part from males usually perceiving their relationship with their PIs better. They may therefore feel more supported, have a better self-esteem and be more self-confident, potentially participating in more collaborations and publishing more. All these factors contribute to increased career prospects and the impression that the postdoc was a useful experience, which could explain why males tend to recommend EPFL more strongly. The reason why females rate the relationship with their PI less frequently as excellent may be worth further investigating. Lack of self-confidence and assertiveness in a very competitive environment could be part of the response, as well as low numbers of female professors and role models in the School of Life Sciences and at EPFL.

Family situation is fairly equally distributed among single (34%), married or living with a partner (38%), and married with children (28%) (Figure 2). 76% of postdocs and females in particular claim their postdoc position itself has an influence on the decision to start a family; 69% claim the overall work environment influences this decision too (Figure 16). More specifically, we wondered
what role the institution and what role the PI played in this perception. The majority of PIs were deemed family-friendly (67%); only 12% seemed averse to postdocs with children (Figure 16). Interestingly, all postdocs with over two publications had family-friendly PIs (Figure 16). However, only 40% of postdocs find EPFL is supportive of postdocs with family obligations, 21% feel EPFL is not making efforts, and 39% don’t know (Figure 16). Men were more likely than females to rate EPFL as family-friendly, but those postdocs that ought to know by experience (married with children) were most likely to rate EPFL as non-family friendly (Figure 16). Perceived family-friendliness of the PI and of EPFL in general were not associated (Figure 16).

Very tellingly, early stage PIs were perceived as less family-friendly, possibly because they cannot afford losing postdoc time to maternity leave (Figure 16). Related to this, postdocs from early PIs and those from family-averse PIs were more likely to claim their postdoc strongly influenced their decision to start a family (Figure 16). Postdocs whose PIs were family-friendly were more likely to be (very) satisfied with their time at EPFL (Figure 17), and more likely to qualify the relationship with their PI as excellent or satisfactory (Figure 4). They also mostly recommended EPFL unreservedly to prospective postdocs, while those with family-unfriendly PIs still recommended EPFL but not in their particular group (Figure 17).

Among those that rated EPFL as non-family friendly, most would still recommend it as a workplace though (Figure 17).

On a positive note, almost all postdocs (>99%) confirm they are allowed to take the holidays they are entitled to by EPFL policy.

General satisfaction and EPFL community

Even though postdocs are not considered EPFL alumni (an inclusion which the postdoc community is very eager to see happen), they do represent a large workforce that will act as ambassadors for EPFL in their subsequent jobs, whether academic or not.

Throughout this report, we found associations between aspects of the postdoc experience, job satisfaction and likelihood to recommend EPFL to other prospective postdocs. On a positive note for EPFL, 83% of postdocs consider themselves (very) satisfied with their postdoc experience, and 79% would unreservedly encourage anyone to apply (Figure 17). 16% prefer to warn prospective postdocs of their particular PI, and only 6% discourage others from applying. (As a reminder, these 16% correspond to 15% claiming a non-satisfactory or broken relationship with their PI.). A higher percentage of females are likely to recommend joining a different group than the one they are part of (Figure 17). Overall satisfaction and the relationship between the postdoc and the PI were highly indicative of the likelihood of recommending EPFL (Figure 17).

When broken down in categories, global satisfaction with the postdoc experience and recommendation of EPFL as a workplace were related to scientific output (first, non-first, reviews & books, grant reviewing, collaborations, and awareness of others leaving the lab without publications (Figure 6), perceived career chances inside academia (Figures 14 and 15), relationship with their PI
including networking (Figures 11, 17), access to soft skills training and their PI's family-friendliness (Figure 17). All these points have been raised under specific paragraphs above, but it is worth stressing that every single aspect that improves the life of the postdoc community also improves the EPFL image as a training and workplace internationally.

Unlike other prestigious international research and teaching institutions, EPFL does not yet advertise a formal postdoc program. We asked whether despite the lack of a formal structure, postdocs felt part of a community at EPFL. 47% do not feel connected, 29% don’t know, and only 24% feel part of something, be it the postdoc association or other associations, be it the institute and correlated activities like happy hours or seminar (Figure 17). Only one person felt their lab was a community, and one respondent felt there was plenty opportunity to socialize. These lucky exceptions taken apart, it shows there is a real need for more social, networking and collaborative events, possibly organized by the SV Postdoc Association or EPFL in general.

**Open ended questions**

Our survey included several open-ended questions to let people have their say. A first question invited suggestions for events organized through the School of Life Sciences or the SV Postdoc Association, and generated a host of exciting ideas:

- More events aimed at professional development towards non-academic careers. These could include GMP, GCP, GPP, regulatory, management tools, statistics for clinical trials, SAP training, data management, and should result in EPFL-approved certificates
- More industry/academia interaction, events presenting start-ups from or at EPFL
- Specific training for academic track: grant writing, talk-practice workshops for teaching and for scientific presentations, application writing for tenure-trackers
- More social events to encourage interaction, also day-long events like hikes, or after-work sports or cultural activities

A second set of questions collected ways to improve the postdoc experience (which, we’d like to remind, is 83% positive already). Things that would make an EPFL postdoc stint even more fabulous:

- A postdoctoral program, to consolidate the postdoc community, integrate newcomers and facilitate information flow, and including courses and workshops tailored to postdocs
- Mentoring scheme (PIs or others) and careers counselling, dedicated careers centre for postdocs, a career coach and regular career assessment
- More teaching opportunities, e.g. small classes, literature discussions, tutorials, practicals
- More collaboration opportunities, maybe a techniques & expertise website where postdocs can trade help and advice; improved communication within and between groups
- Create more senior-scientist positions (i.e. non-professor, long-term committed professionals) as intermediaries between postdocs and (unavailable) PIs.
- Long-term contracts beyond a year, and no 4-year cap, especially for people working with mouse models. Possibility of internal promotions. Extended access to journals after contracts end, to be able to write proposals and keep updated for new jobs.
- Help with practicalities: housing, jobs for spouses, childcare & possibility to work from home, administrative issues, healthcare included in the work contract
Finally, we asked about what is already great at EPFL. Here you go:

- Fabulous infrastructure, great platforms/core facilities with easy access and extensive training
- Numerous (interdisciplinary) collaborations, international community, multidisciplinary workplace
- Great diversity of seminars, high scientific standards, excellent scientific reputation of EPFL abroad which attracts world-class speakers
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References


Appendix: List of questions and possible answers

Rounded percentages are also shown in parenthesis (note that because of the rounding procedure, not all answers may sum up to 100% for each question).

1. What is your nationality?
   - Swiss (7%)
   - EU (67%)
   - Non-EU (26%)

2. What is your gender?
   - Male (59%)
   - Female (41%)

3. What is your family situation?
   - Single (34%)
   - Married/with a partner (38%)
   - Married/with a partner & children (28%)

4. What institute are you a part of?
   - ISREC (26%)
   - IBI (25%)
   - GHI (24%)
   - BMI (24%)

5. How large is your group (includes everyone with a contract >6 months)?
   - <10 people (19%)
   - 10-20 people (65%)
   - >20 people (16%)

6. How long have you been working as a postdoc?
   - Less than 2 years (45%)
   - Between 2 and 4 years (33%)
   - Over 4 years (22%)

7. Is this your first postdoc after PhD?
   - Yes (70%)
   - No (30%)

8. Have you already worked outside of academia after your PhD?
   - Yes (6%)
   - No (94%)

9. Were you asked to bring a fellowship when you joined EPFL?
   - Yes (30%)
   - No (70%)

10. Do you have your own grant or fellowship?
    - Yes (29%)
No (71%)

11. Are you planning to apply or have you already applied for funding for your project at EPFL?
   Yes (56%)
   No (44%)

12. How many first authorship research articles (submitted or already published) have you published from your work at EPFL?
   None (61%)
   One (20%)
   Two (9%)
   More than two (10%)

13. How many first authorship research articles do you expect to publish from your work at EPFL?
   None (5%)
   One (23%)
   Two (40%)
   More than two (32%)

14. How many non-first authorship research articles (submitted or already published) did you publish while at EPFL?
   None (50%)
   One (28%)
   Two (9%)
   More than two (14%)

15. How many non-first authorship research articles do you expect to publish while at EPFL?
   None (7%)
   One to two (41%)
   Two to three (23%)
   More (19%)
   Too early to tell (10%)

16. How many review articles/book chapters did you publish while at EPFL?
   None (73%)
   One (17%)
   Two (5%)
   More than two (5%)

17. How many review articles/book chapters do you expect to publish from your work at EPFL?
   None (49%)
   1 to 2 (35%)
   2 to 3 (6%)
   More than 3 (4%)
   Too early to tell (7%)

18. Are you aware of postdocs having left the lab during the last 36 months without a publication?
   None (47%)
   Yes, this has happened 1-3 times (33%)
   Yes, this has happened over 3 times (4%)
   I do not know (17%)
19. Have you ever been asked by your supervisor to peer-review a paper?
   Yes (55%)
   No (45%)

20. Have you ever been asked by your supervisor to review an external grant?
   Yes (11%)
   No (89%)

21. Have you ever been asked by your supervisor to participate in grant writing?
   Yes (48%)
   No (52%)

22. Do you feel you spend too much time on grant writing for your PI?
   Yes (3%)
   No (97%)

23. Does your group have clear rules on authorship issues / an authorship policy?
   Yes (36%)
   No (38%)
   I do not know (26%)

24. Does your institute have clear rules on scientific misconduct?
   Yes (35%)
   No (10%)
   I do not know (55%)

25. Have you ever attended a bio-ethics related class during your PhD or postdoc?
   Yes (44%)
   No (50%)
   What is bio-ethics? (6%)

26. How often do group meetings take place in your lab?
   Once a week (76%)
   Between once a week and once a month (15%)
   Less than once a month (4%)
   We have not had a group meeting in the last 6 months (6%)

27. Do you participate in a journal club?
   Yes (60%)
   No (40%)

28. Within the institute, how many talks do you give each year (includes floor seminars and departmental seminars, but not group meetings)?
   None (28%)
   One (51%)
   Two (16%)
   More than two (5%)

29. Outside your institution, how many talks did you give in the last year (national and international)?
   None (38%)
   One (29%)
Two (17%)
More than two (16%)

30. How many conferences (national and international) did you attend in the last year?
None (24%)
One (36%)
Two (27%)
More than two (13%)

31. Do you attend career fairs and other career events?
Yes (40%)
No (60%)

32. Do you have to take a day of holidays in order to attend career events, job fairs, etc.?
Yes (15%)
No (50%)
I do not know (36%)

33. Are you allowed, after discussion with your mentor, to collaborate outside of your group?
Yes (82%)
No (2%)
I do not know (17%)

34. How many collaborations outside your group are you involved in?
None (20%)
1-2 (60%)
More than 2 (19%)

35. Are you familiar with everybody’s work in your group?
Yes (79%)
No (21%)

36. Have you been offered the possibility to mentor Master or PhD students?
Yes (67%)
No (33%)

37. Have you been involved in teaching? (Multiple choice)
No (64%)
Yes, but no lectures (18%)
Yes, only lectures (9%)
Yes, lectures and practical sessions (9%)

38. How satisfied are you with your postdoc experience?
Very satisfied (26%)
Satisfied (57%)
Dissatisfied (13%)
Very dissatisfied (4%)

39. Ideally, what would be your next career choice?
academic research (69%)
non-academic research (21%)
teaching (<1%)
other, please specify (9%). *Answers included:* academic technical support, education policy, business strategy, journals, industry, unsure yet.

40. After your postdoc would you like to continue in academic research?
   Yes, if I have the opportunity (80%)
   No, even if I have the opportunity (20%)

41. What do you think your chances are to succeed in academic research?
   Slim (35%)
   Good with a bit of luck (40%)
   Good (22%)
   Excellent (3%)

42. In your opinion, has your current postdoc improved your employment perspectives in academic research?
   Yes (55%)
   No (15%)
   I do not know (30%)

43. In your opinion, has your current postdoc improved your employment perspectives in the pharmaceutical industry?
   Yes (29%)
   No (42%)
   I do not know (29%)

44. Would you recommend EPFL to prospective postdocs?
   Yes, I would encourage everyone to apply (79%)
   Yes, but not in my group (16%)
   No (6%)

45. What is the career stage of your supervisor?
   Early (less than 8 years after postdoc) (21%)
   Mid (more than 8 years after postdoc but more than 10 years until retirement) (50%)
   Late (less than 10 years to retirement) (29%)

46. How do you rate your relationship with your boss?
   Excellent (36%)
   Satisfactory (50%)
   Non satisfactory (11%)
   Broken (4%)

47. How often do you have scheduled meetings with your supervisor (excluding informal corridor discussions)?
   Once a month or more (46%)
   Between once a month and once every six months (42%)
   Less than once every six months (13%)

48. How often do you have informal corridor discussions with your supervisor?
   daily (14%)
   weekly (49%)
   monthly (24%)
   less than once a month (14%)

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49. Do you have a mentor (official or non-official) other than your PI?
   Yes, a member of our group (4%)
   Yes, a member of EPFL (5%)
   Yes, somebody outside of EPFL (14%)
   No, but I would like to have one (31%)
   No, and I do not want one (47%)

50. Is your PI supportive of alternative career choices (industry, science communication, administration, etc.)?
   Yes (68%)
   No (32%)

51. Does your PI actively help with your career advancement?
   Yes, he/she is proactive and brings positions to my attention (12%)
   Yes, but I have to be proactive myself (48%)
   No (41%)

52. Does your PI help you create and expand your network?
   Yes (55%)
   No (45%)

53. Are there formal goals set and evaluated for the duration of your postdoc?
   Yes (28%)
   No (72%)

54. Are you aware of the research topics of other labs within the institute?
   Yes (90%)
   No (10%)

55. Is there a long-term senior scientist in your group?
   Yes (46%)
   No (54%)

56. Do you feel limited by the 4 years EPF domain policy?
   Yes, I would stay longer (68%)
   No, I would move on after 4 years anyway (32%)

57. Do you feel you are part of a community at EPFL?
   No (24%)
   I do not know (47%)
   If yes, please specify (29%). Answers included: SV Postdoc association, institute, happy hours & seminars, other associations, lab, plenty of socialization, what?

58. What specific training did you attend while at EPFL? (Multiple choice)
   Soft skills e.g. project/time management, interpersonal relations, and foreign languages (28%)
   Experimental skills (microscopy course, flow cytometry etc.) (47%)
   Professional e.g. grant writing, teaching (9%)
   External courses e.g. EMBO courses & workshops (16%)
59. Are you allowed to take any of the classes organized by EPFL human resources for personal and career development?
   Yes (43%)
   No (2%)
   I never tried to attend (55%)

60. Would you like to have access to a career counselling service?
   Yes (84%)
   No (16%)

61. To what extent does your postdoc position influence the decision to start a family?
   A lot (40%)
   A little (36%)
   Not at all (24%)

62. To what extent does your work environment influence the decision to start a family?
   A lot (34%)
   A little (35%)
   Not at all (31%)

63. Does your PI allow you to take the holidays to which the EPFL rules entitle all employees?
   Yes (99%)
   No (<1%)

64. In your opinion is your PI family-friendly?
   Yes (67%)
   No (12%)
   I do not know (21%)

65. In your opinion is your institution supportive of postdocs with family obligations?
   Yes (40%)
   No (21%)
   I do not know (39%)

66. Have you ever heard of the SV Postdoc Association (before this survey)?
   Yes (92%)
   No (8%)

67. Have you ever attended any of the events organized by the SV Postdoc Association?
   Yes (69%)
   No (31%)

68. Do you have any suggestions for future events organized by the school or the postdoc association?

69. Do you have any suggestions about ways to improve your postdoc experience?

70. What aspects of your postdoc experience could be improved by EPFL?

71. What are the things you really liked or from which you have really benefited during your postdoc?
72. Which changes or novelties would you recommend?

73. Do you have any suggestions to improve the various points where you might have given a negative answer?
Figure 1: Overall metrics and validation of representativeness

### Gender
- **Male**
- **Female**

### Years as a postdoc at EPFL
- **<2**
- **2–4**
- **>4**

### Institute
- **IBI**
- **ISREC**
- **GHI**
- **BMI**

### Nationality
- **Swiss**
- **EU**
- **non-EU**
Figure 2: Survey population data with no available SV population data

**Group size**
- <10 people: 19%
- 10–20 people: 65%
- >20 people: 16%

**First postdoc after PhD?**
- Yes: 70%
- No: 30%

**Career stage of your supervisor?**
- Early (<8 yr after postdoc): 21%
- Mid (>8 yr after postdoc & >10 yr until retirement): 29%
- Late (<10 yr to retirement): 50%

**Already worked outside of academia after your PhD?**
- Yes: 6%
- No: 94%
Communication and Supervision

Figure 3: Group meetings, journal clubs and group interaction

**Group meetings frequency?**

<table>
<thead>
<tr>
<th>Institute</th>
<th>BMI</th>
<th>GHI</th>
<th>ISREC</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-20</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>&gt;20</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Early</td>
<td></td>
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<tr>
<td>Mid</td>
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<tr>
<td>Late</td>
<td></td>
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</tbody>
</table>

**Journal clubs?**

<table>
<thead>
<tr>
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<th>BMI</th>
<th>GHI</th>
<th>ISREC</th>
<th>All</th>
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<tbody>
<tr>
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<tr>
<td>10-20</td>
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<tr>
<td>&gt;20</td>
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</tr>
<tr>
<td>Early</td>
<td></td>
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</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Late</td>
<td></td>
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</table>

**Familiar with lab research?**

<table>
<thead>
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<th>BMI</th>
<th>GHI</th>
<th>ISREC</th>
<th>All</th>
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<td>Early</td>
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</tr>
<tr>
<td>Late</td>
<td></td>
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</table>

**Career stage of PI?**

<table>
<thead>
<tr>
<th>Nationality</th>
<th>All</th>
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</thead>
<tbody>
<tr>
<td>Swiss</td>
<td></td>
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<tr>
<td>EU</td>
<td></td>
</tr>
<tr>
<td>Non-EU</td>
<td></td>
</tr>
</tbody>
</table>
Figure 5: Funding and grants

**Asked to bring fellowship?**

- All
- ISREC
- IBI
- GHI
- BMI

**Group size**
- <10
- 10–20
- >20

<table>
<thead>
<tr>
<th>Institute</th>
<th>% of total in group</th>
</tr>
</thead>
<tbody>
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<td>All</td>
<td>Yes</td>
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<td>ISREC</td>
<td>Yes</td>
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<td>IBI</td>
<td>Yes</td>
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<tr>
<td>GHI</td>
<td>Yes</td>
</tr>
<tr>
<td>BMI</td>
<td>Yes</td>
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**Planning to apply for funding?**

- All
- Swiss
- EU
- Non-EU

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</thead>
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</tr>
<tr>
<td>EU</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-EU</td>
<td>Yes</td>
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</table>

**Too much time on grant writing?**

- Family situation
  - Single
  - W partner
  - W children

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<thead>
<tr>
<th>Family situation</th>
<th>% of total in group</th>
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</thead>
<tbody>
<tr>
<td>Single</td>
<td>Yes</td>
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<tr>
<td>W partner</td>
<td>Yes</td>
</tr>
<tr>
<td>W children</td>
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</table>

**Satisfaction**

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>% of total in group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>Yes</td>
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<td>Satisfied</td>
<td>Yes</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>Yes</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>Yes</td>
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</tbody>
</table>

**Postdoc time**

- First position?
  - Yes
  - No

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<thead>
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<th>Postdoc time</th>
<th>% of total in group</th>
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<td>Yes</td>
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<table>
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<th>Postdoc time</th>
<th>% of total in group</th>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>No</td>
<td>Yes</td>
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<table>
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<th>Postdoc time</th>
<th>% of total in group</th>
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<td>&lt;2 years</td>
<td>Yes</td>
</tr>
<tr>
<td>2–4 years</td>
<td>Yes</td>
</tr>
<tr>
<td>&gt;4 years</td>
<td>Yes</td>
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</table>
Figure 7: Publication and research ethics

Clear rules on authorship?

Clear rules on misconduct?

Attended bio–ethics?
Figure 9: Research awareness and collaborations

Aware of institute research?

<table>
<thead>
<tr>
<th>Institute</th>
<th>All</th>
<th>ISREC</th>
<th>IBI</th>
<th>GHI</th>
<th>BMI</th>
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</table>

Collaborations allowed?

<table>
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<th>All</th>
<th>ISREC</th>
<th>IBI</th>
<th>GHI</th>
<th>BMI</th>
</tr>
</thead>
</table>

Number of collaborations?

<table>
<thead>
<tr>
<th>1st-author published</th>
<th>None</th>
<th>1−2</th>
<th>More than 2</th>
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</thead>
</table>

Gender

<table>
<thead>
<tr>
<th>Gender</th>
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<th>Female</th>
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</thead>
</table>

Collaborations

<table>
<thead>
<tr>
<th>Collaborations</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>&gt;2</th>
</tr>
</thead>
</table>
Figure 11: Networking and mentoring

**PI help expand network?**

- **All**
- **Male**
- **Female**
- **Swiss**
- **EU**
- **Non-EU**
- **<2**
- **2-4**
- **>4**

**Gender**
- **Female**
- **Male**

**Nativity**
- **Non-EU**
- **EU**
- **Swiss**

**Time at EPFL**
- **<2**
- **2-4**
- **>4**

**1st-author published**
- **0**
- **1**
- **2**
- **>2**

**Nb collaborations**
- **0**
- **1-2**
- **>2**

**Relation with PI**
- **Excellent**
- **Satisfactory**
- **Non satisfactory**
- **Broken**

**Satisfied**
- **Very satisfied**
- **Satisfied**
- **Dissatisfied**
- **Very dissatisfied**

**Have/Want mentor?**

- **All**
- **Male**
- **Female**
- **Swiss**
- **EU**
- **Non-EU**
- **0**
- **1**
- **2**
- **>2**

**1st-author published**
- **Nationality**
- **Yes, a member of our group**
- **Yes, a member of EPFL**
- **Yes, somebody outside of EPFL**
- **No, but I would like to have one**
- **No, and I do not want one**

**% of total in group**
Figure 13: Career prospects

**PI helps with career?**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Yes, he/she is proactive and brings positions to my attention</th>
<th>Yes, but I have to be proactive myself</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>1st author published</th>
<th>Yes, he/she is proactive and brings positions to my attention</th>
<th>Yes, but I have to be proactive myself</th>
<th>No</th>
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<td></td>
</tr>
<tr>
<td>&gt;2</td>
<td></td>
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</table>

**Access to career center?**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>All</td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>Female</td>
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</table>

**Next career choice?**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Fellowship</th>
<th>Academic research</th>
<th>Non-academic research</th>
<th>Teaching</th>
<th>Other, please specify</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Nationality</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Swiss</td>
<td></td>
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<tr>
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<td></td>
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<tr>
<td>Non-EU</td>
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<table>
<thead>
<tr>
<th>First author published</th>
<th>Yes, he/she is proactive and brings positions to my attention</th>
<th>Yes, but I have to be proactive myself</th>
<th>No</th>
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<tbody>
<tr>
<td>None</td>
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<td></td>
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<tr>
<td>Two</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Two</td>
<td></td>
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<table>
<thead>
<tr>
<th>PI helps expand network</th>
<th>Yes, he/she is proactive and brings positions to my attention</th>
<th>Yes, but I have to be proactive myself</th>
<th>No</th>
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</thead>
<tbody>
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<th>No</th>
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<tr>
<td>&gt;2</td>
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<table>
<thead>
<tr>
<th>Group meetings</th>
<th>Yes, he/she is proactive and brings positions to my attention</th>
<th>Yes, but I have to be proactive myself</th>
<th>No</th>
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<tr>
<td>None in 6 months</td>
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<td>less than 1/month</td>
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<td>1/week-1/month</td>
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<th>Limited by 4-year policy</th>
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</table>
Figure 14: Academic career prospects
Figure 15: Alternative career prospects

**Improved pharma employment perspectives?**

- **Gender**
  - All
  - Male
  - Female

- **Institute**
  - All
  - ISREC
  - IBI
  - GHI
  - BMI

**PI supportive of alternative careers?**

- **1st author published?**
  - 0
  - 1
  - 2
  - >2

- **Relation with PI**
  - Excellent
  - Satisfactory
  - Non satisfactory
  - Broken

- **postdoc left without publication**
  - 0
  - 1-3
  - >3
  - Don't know

**Career fairs and events?**

- **Institute**
  - All
  - ISREC
  - IBI
  - GHI
  - BMI

% of total in group
Figure 17: Global satisfaction and EPFL community

**Satisfied?**

- **Very satisfied**
- **Satisfied**
- **Dissatisfied**
- **Very dissatisfied**

- All
- Yes
- No
- 1/week
- 1/week-1/month
- less than 1/month
- none in 6 months
- Excellent
- Satisfactory
- Non satisfactory
- Broken

- Group meetings
- Fellowship
- Relationship with PI?
- PI helps expand network
- PI family friendly
- PI supportive alternative career
- Allowed to take HR course
- 1st author published

**Recommend EPFL?**

- Yes, I would encourage everyone to apply
- Yes, but not in my group
- No

- All
- Male
- Female
- Very satisfied
- Dissatisfied
- Very dissatisfied
- Excellent
- Satisfactory
- Non satisfactory
- Broken

- Relationship with PI?
- Gender
- Nationality
- Institute

**Part of a community?**

- Yes
- No
- I do not know

- All
- Swiss
- EU
- Non-EU
- ISREC
- IBI
- GHI
- BMI

<table>
<thead>
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