



Karolinska Institutet Postdoc Association
Retzius väg 8
SE 171 77 Stockholm
email: info@kipostdocassociation.org

Helene Hellmark Knutsson
Minister for Higher Education and Research
Rosenbad 4
SE 103 33 Stockholm

Subject: Karolinska Institutet Postdoc Association advocates the Swedish Government to revise the training and working conditions of postdoctoral scientists in modern academia.

Dear Minister for Higher Education and Research,

As representatives of the Karolinska Institutet Postdoc Association (KIPA)¹, here we aim to draw attention to the **urgent need** to improve the training and working conditions for postdoctoral scientists in Sweden. This will ensure that Sweden becomes a **more attractive place for postdoctoral researchers and therefore ensure the international competitiveness of Sweden in scientific research and technology development.**

Current conditions for postdoctoral scientists restricts the attraction and retention of international talent, hindering Sweden in its bid to be a European powerhouse for research. Indeed, postdoctoral training programs are out-dated, working conditions are extremely unstable, and the contribution to research advancement made by postdoctoral researchers is undervalued. The current academic career prospects for young researchers in biomedical research are unattractive due to many factors, including a disproportionate gap between the number of PhD scientists and available professorships, limited research funding, lack of transparency in the recruitment process, and limited support for a career transition outside academia, among others.

We kindly ask for a meeting with a relevant official at the Ministry for Higher Education and Research to discuss this urgent, important, and complex matter. **We believe KIPA can provide insight relevant for the changes in legislation, as representative of the target group.**

We know that the Swedish Ministry for Higher Education and Research aims to improve stability and attractiveness of an academic career (Research Bill 2016/17:50). We noticed that compared to the proposal SOU 2016:29, the Research Bill does not include any changes regarding postdoctoral researchers due to the lack of sufficient correct information on this career position. For instance, in the proposal SOU 2016:29, it is reported that in 2014, there were 2000 postdoctoral scientists working in Swedish universities and colleges (Fig 6.1, page 171). This figure is a substantial un-

¹ The mission of KIPA is to give the postdoctoral community working at Karolinska Institutet a voice, a supportive network, and representation.

Our aim is to work closely with KI leadership and administration to achieve the best possible working and training conditions for KI postdoctoral scientists, thereby making Karolinska Institutet a more attractive place for postdoctoral training. All postdoctoral scientists working at KI are members of KIPA.

derestimate as there are approximately 1000 postdoctoral scientists running research at Karolinska Institutet and Hospital alone.

We are thankful that the Ministry for Higher Education and Research is collecting further information on the postdoctoral role in modern academia and the current training and working conditions before introducing any change. Indeed, the postdoctoral professional figure substantially changed in the last decade, but laws and regulations have failed to adapt.

For instance, **postdoctoral scientists face the most difficult academic job market in history**. The possibilities to progress in the academic ladder are extremely few especially compared to the number of available professorships. At Karolinska Institutet there are approximately 1000 postdoctoral researchers, but the number of centrally funded Assistant Professorships are approximately ten per year plus few more department positions. Naturally, most of the postdoctoral scientists (80-90%) will have to choose a non-academic or a non-research career path. Additionally, postdoctoral researchers have to change career path years after college and PhD graduation.

Here we summarise (1) the current expectations postdoctoral scientists must fulfil; (2) the conditions postdoctoral scientists work and train under; (3) KIPA vision to increase attractiveness, competitiveness, and equality of the academic career perspective in Sweden.

(1) Currently postdoctoral scientists in biomedical research are **required** to:

- Conduct research full-time to publish high-impact publications in peer-reviewed journals.
- Train bachelor, masters, and PhD students.
- Contribute to the financial and administrative management of the host laboratory.
- Engage in multidisciplinary projects to ensure high impact and high quality research to increase competitiveness of the host laboratory.
- Teach (optional).
- Continuously undertake professional development and training to progress in their chosen career path.

(2) To achieve the above summarised goals, postdoctoral scientist in biomedical researcher are **offered**:

- **Short-term scholarships or contracts** (maximum duration two years, often offered as multiple six month to one year scholarship agreements or contracts). These terms are unacceptable as extremely unstable and incompatible with the job task and responsibilities. Furthermore, scholarships do not offer social benefits.

Work **instability** forces the postdoctoral scientists to choose the safe projects versus the high-risk high-gain (therefore much longer) projects, with detrimental effects on quality and impact of Swedish biomedical research. Short-term appointments are **unrealistic** because it is a well-established fact that the current average postdoctoral duration is 4.5 years (Powell, 2017, Science).

- **Limited time to achieve a position of independence**. The current time limit to achieve a position of independence is also unrealistic as it is increasingly necessary for postdoctoral scientists to train in more than one laboratory in different countries in order to obtain the experience, competences, and accomplishments required for career progression. The USA and UK have already accepted this reality and they do not have a postdoctoral time limit.
- **Limited research skills development**. In Sweden, postdoctoral researchers often risk being recruited solely for their previously acquired skills. Therefore, limited time can be dedicated to acquiring new skills. This is a particularly alarming phenomenon. **The postdoctoral career stage is not clearly defined as a career position**. Since solid professional development plans are not required, exploitation of postdoctoral researchers is a more common phenomenon than contemplating.
- **Limited professional training**. Professional training is especially necessary in response to the current job market in biomedical science. Foreign institutions around the world already offer modern postdoctoral training programs that equip candidates with a diverse career potential.
- **No representation** at relevant university and college boards and councils.
- **Unclear requirements** necessary to reach a position of independence within academia.

(3) KIPA vision to increase attractiveness, competitiveness, and equality of the academic career perspective in Sweden.

We have formed an opinion on how to achieve increased stability and attractive training and working conditions for postdoctoral researchers. This envisions a beneficial impact on Swedish biomedical research attractiveness and competitiveness.

We have formed our opinion based on the European Framework for Research Careers (Brussel, 2011) and European Charter of Researcher (Brussel, 2016)² together with our experience as representatives and advocates of postdoctoral scientists at Karolinska Institutet³. Here, we enclose our latest surveys that confirm the relevance and timeliness of our proposal (Annex A and B).

We believe that an effective reform should include the following aspects:

- A. **Removal of the upper limit to postdoctoral research time.** As also reported in the spontaneous reply of KIPA to the proposal SOU 2016:29 (Annex C), we agree with the Ministry for Higher Education and Research that the postdoctoral training requires substantial changes, but we disagree on reducing the postdoctoral time to a maximum of five years after doctoral graduation. Scientific career trajectories and fields are too unpredictable and diverse to force young researchers into a “one-size-fits-all” model.
- B. **More funding for staff scientists**, as this will improve the laboratory practise, ensure constant technical advancement, and relieve both principal investigators and postdoctoral scientists of some administrative burden.
- C. **Introduction of postdoctoral scientists’ representation** (Postdoc Associations) in relevant university and college boards and councils. Postdoctoral researchers and junior/future faculty are currently under the same umbrella⁴. However, this group is formed of employers (Assistant Professors) and employees (postdoctoral researchers). The driving force within junior/future faculty is usually assistant professors, leaving postdoctoral researchers without representation.
- D. **Equivalent status** to scholarship holders and employed postdoctoral researchers. The social benefits associated with these statuses are different. This provides unequal opportunities to highly trained professionals at an equal career stage. Importantly, the national negotiations of the academic unions (SACO) impact employed postdoctoral scientists and not scholarship holders.
- E. **Fund innovative postdoctoral programs** in Sweden that includes more opportunities for professional development. This will have beneficial effects on Swedish academic research and the scientific job market. At the international level, major agencies and universities already run innovative postdoctoral programs (for e.g., NIH BEST, MyChoise at the University of Chicago, H2020 SME innovation associate, Postdoc Development Centre at Imperial College of London, UK).

² A postdoctoral fellow is a scientist who holds a PhD (or equivalent level of experience and competence) degree who has not yet established a significant level of independence. As such, a postdoctoral scientist is a recognised researcher. Indeed, competitive postdoctoral scientists have demonstrated systematic understanding of the field of study, ability to conceive, design, implement, and adapt a substantial programme of research with integrity. They also have demonstrated critical analysis, evaluation, and synthesis of complex idea, can communicate with their peers and take ownership for own career progression. Nevertheless, postdoctoral scientists should seek to continually improve themselves by regularly updating and expanding their skills and competencies.

³ KIPA regularly survey postdoctoral scientists, organise professional development initiatives, study postdoctoral training and working conditions around the world. Furthermore, we are in contact with other Postdoc Associations in Europe and USA, Junior and Future Faculties in Sweden (see Annex A and our website www.kipostdocassociation.org)

⁴ Postdoctoral scientists and Assistant Professors are grouped together as junior researchers holding a PhD degree or equivalent performing research activity in academia without a permanent position.

Overall, we believe that including the points discussed above in the reform of the postdoctoral career position will increase the scientific productivity, creativity, innovation, and attractiveness of Swedish institutions for national and international researchers. This will naturally also have beneficial effects also on career mobility. KIPA is grateful that the KI leadership is open to our view and tries to implement changes also based on our feedback⁵. However we believe that a government action on the topic is needed.

We informed the leadership of Karolinska Institutet of this letter.

We look forward to your reply and would be delighted to have a meeting with a relevant official at the Ministry of Higher Education and Research.

Respectfully,

Elisa Floriddia
Chairperson and spokesperson of KIPA

Karolinska Institutet
Department of Medical Biochemistry and Biophysics
Scheeles väg 2
SE 171 77 Stockholm
email: elisa.floriddia@ki.se

⁵ KIPA also receives financial support from Karolinska Institutet to improve the postdoctoral training experience

Annex A

KIPA report on postdoc survey 2016

Aim of the survey

KI Postdoc Association (KIPA) is a member driven organization representing postdoctoral scientists at KI. Our mission is to give KI postdoc scientists a voice and a supportive network. We aim to work together with KI leadership to improve working and training conditions for postdoc scientists. This will lead to enhance productivity and higher quality science run by postdoctoral scientist, therefore increase attractiveness of KI as an employer.

To be able to better represent KI postdoc scientists, KIPA run regular surveys and report this results to KI leadership.

Main findings:

Administrative information

- After January 2015, the percentage of postdoc scientists that received information on the benefits derived by scholarship or employment increased compared to previous years.
- We found irregularities on minimum stipend duration.
- Regarding matters to settle in Sweden (personal number, Swedish ID, VISA), the majority of KI postdoc scientists rely on the information provided by KI. Therefore, they must be as clear and complete as possible.

Working conditions

- The majority of postdoctoral scientists at KI are quite satisfied with their working conditions. Low satisfaction is related to job instability, low income, poor work-life balance, lack of certain social benefits on a stipend.
- KI postdoc scientists see as unequal treatment the opportunity to be a stipend holder when a foreigner with a foreigner PhD degree.
- Voting rights are limited to employed postdoc scientists. Stipend holders cannot vote.
- KI postdoctoral scientists would recommend a fellow postdoc to work at KI, but not on stipend.
- Approximately half of the KI postdoctoral scientists do not know who to contact in case of harassment, intimidation, or conflict.

Postdoctoral training conditions

- Postdoctoral training conditions are considered mildly positive.
- Postdoctoral scientists need more career support, more transparency on career advancement, and more opportunity for career development.

KIPA proposal to improve postdoctoral working and training conditions

- 1) Ombudsman for postdoctoral scientists to address the insufficient support postdoctoral scientists receive in case of harassment, intimidation, or conflict;
- 2) Extension of voting rights to all postdoctoral scientists, regardless employment status;
- 3) Representation for postdoctoral scientists at Department Councils and Board of Research;
- 4) Improve information provided before joining KI. Having postdoc representatives and changing the interview routine will facilitate this process;
- 5) Better control mechanisms to assure the correct implementation of current KI regulations (e.g., irregularities on minimum length of scholarship, signing of understanding of scholarship regulation);
- 6) Implementation of new regulations to improve the career advancement and working conditions for postdoc scientists (increased transparency; decrease of the academia leaky pipeline);
- 7) Implementation of regulations that protects stipend holders, as they are the most vulnerable group within the postdoc community (increase equality);
- 8) Enrich the postdoctoral training to increase their professionalism, marketability, and career advancement.

We are confident that happier postdoc scientists will run better science for the benefit of KI and medical research. **KIPA would like to support and be part of the positive changes** necessary to

improve postdoc working and training conditions. KIPA should be recognised by KI leadership as representative of KI postdoctoral scientists.

Importantly, our suggestions are in line with the “Regeringens proposition 2016/17:50”. Indeed, among the numerous directives, the Ministry of Education clearly stated that **universities and colleges in Sweden have to take responsibility for the career system and working conditions of young researchers.**

Survey Analysis

Methods

KIPA sent this survey to KI postdoc scientists in June 2016. **269 active postdoc scientists at KI responded to the survey.** 39.2% of respondents were male, 60.8% were female. **The pool is representative of all department at KI,** as we got responses from 20 out of 22 departments at KI. The exceptions are departments with a high presence of medical doctors, such as Department of Clinical Sciences and Department of Dental Medicine.

Data are reported as percentages. For some questions in the survey, we subdivided the respondents in two groups: arrived at KI before or after January 2015. We clearly stated when such sorting was made.

We chose January 2015 as watershed because we are aware that KI worked to improve the quality of information provided to newly arrived postdoc scientists at KI regarding several administrative matters, including scholarship- and salary-derived benefits. The parties that affected these changes were the Dean of Research at that time, Hans-Gustaf Ljunggren, the HR Office at the central administration, and the KI International Staff Office at KI. All these parties were made aware of the need to improve communication by KIPA elected representative (e.g., Chair and Vice-Chair) based on the results of a previous survey run by KIPA within the postdoc community at KI (Annex A).

Results

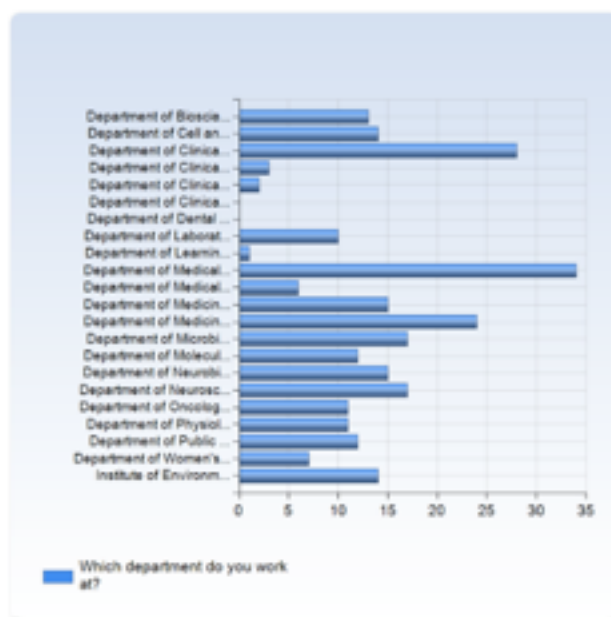
Demographic

21.3% of respondents were Swedish, 46.1% were non-Swedish EU citizens, and 32.6% were non-EU citizens. The respondents to the survey work in 20 out of 22 KI departments.

Regarding the type of income, 15% and 10.5% of respondents hold a KI internal or external (awarded to the postdoc researcher) scholarship, respectively. 38.5% are now employed after a period as scholarship holder. 37.6% are employed since the start of their work as postdoc scientists at KI.

The position at KI is the first appointment as postdoc scientist for 73.4% of respondents, while 26.6% have already worked as postdoc scientists somewhere else.

Which department do you work at?	Number of Responses
Department of Biosciences and Nutrition	13 (4.9%)
Department of Cell and Molecular Biology	14 (5.3%)
Department of Clinical Neuroscience	28 (10.5%)
Department of Clinical Science and Education, Södersjukhuset	3 (1.1%)
Department of Clinical Science, Intervention and Technology	2 (0.8%)
Department of Clinical Sciences, Danderyd Hospital	0 (0.0%)
Department of Dental Medicine	0 (0.0%)
Department of Laboratory Medicine	10 (3.8%)
Department of Learning, Informatics, Management and Ethics	1 (0.4%)
Department of Medical Biochemistry and Biophysics	34 (12.8%)
Department of Medical Epidemiology and Biostatistics	6 (2.3%)
Department of Medicine, Huddinge	15 (5.6%)
Department of Medicine, Solna	24 (9.0%)
Department of Microbiology, Tumor and Cell Biology	17 (6.4%)
Department of Molecular Medicine and Surgery	12 (4.5%)
Department of Neurobiology, Care Sciences and Society	15 (5.6%)
Department of Neuroscience	17 (6.4%)
Department of Oncology-Pathology	11 (4.1%)
Department of Physiology and Pharmacology	11 (4.1%)
Department of Public Health Sciences	12 (4.5%)
Department of Women's and Children's Health	7 (2.6%)
Institute of Environmental Medicine	14 (5.3%)
Total	266 (100.0%)



Information provided by the employer (KI)

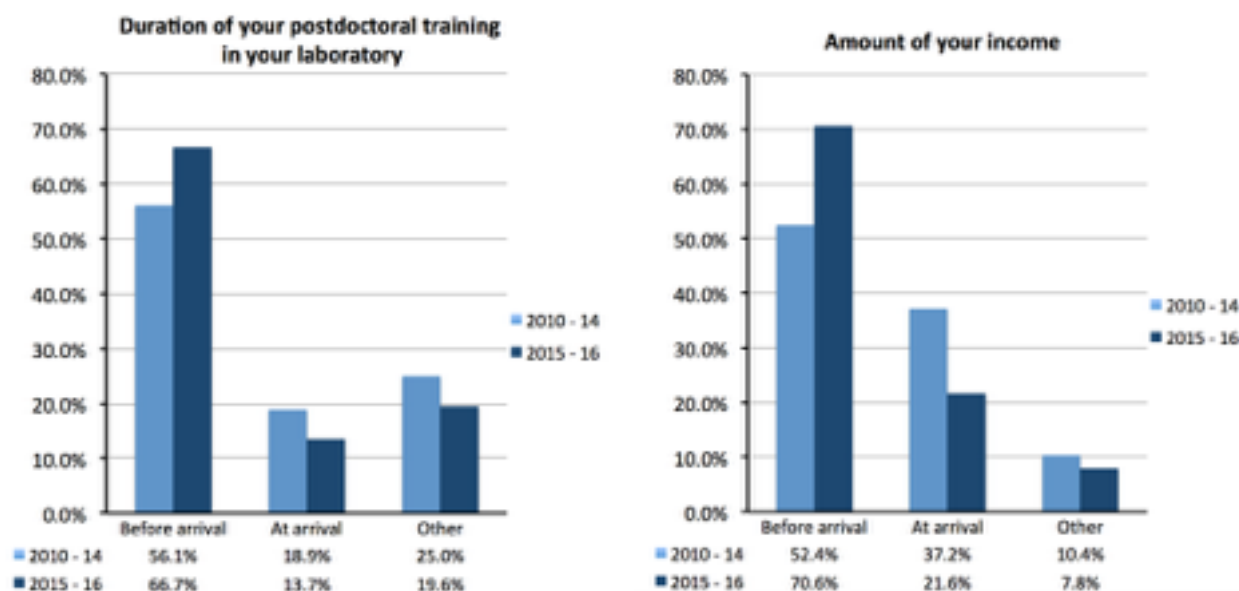
In this section we investigated the flow of information from the KI Administration to the KI postdoc community. All the questions regarding this section were posed as follows:

“Were you provided sufficient information from your PI or the HR office in your department on...?”

and the respondents could choose whether they got the information before or at arrival at KI¹.

As mentioned, we filtered the respondents based on the year they joined KI as postdoc scientist, in order to be able to verify whether there have been improvements after the application of the new regulations.

We found that, **before arrival**, the majority of postdocs are properly informed on **duration of the postdoc period** in the hosting lab and the **amount of the offered stipend/salary** as shown in the graphs below.



Benefits derived by scholarship and salary

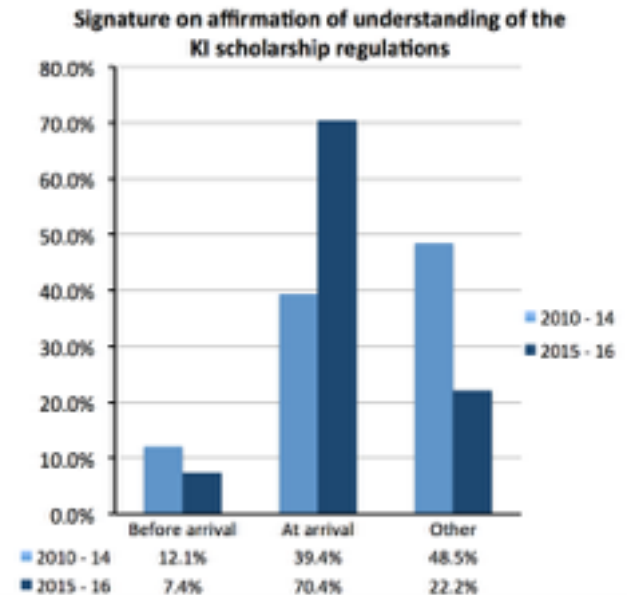
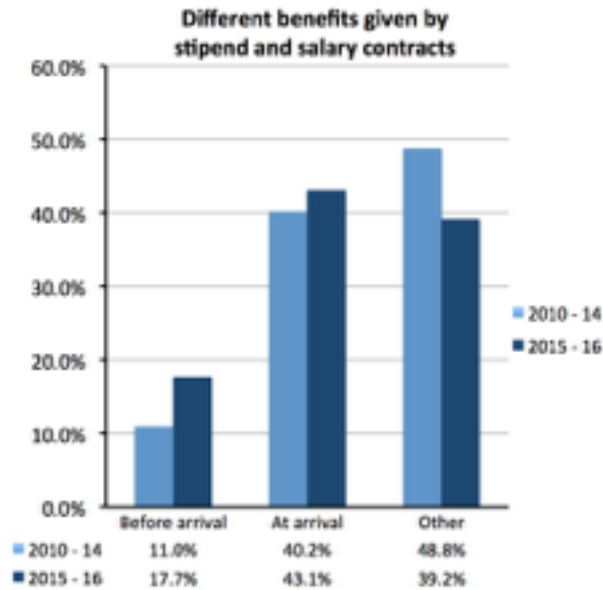
KI postdoc scientists reported that they **received information on the different benefits provided by stipend (scholarships) and salary before or at arrival at KI in 51.2% (2010-14) and 60.8% (2015-16) of cases**. Despite the increase in provided information after January 2015, **39.2% (2015-16) of postdoc scientists at KI did not get this type of information**.

In line with this observation, before January 2015, 48.5% and 51.5% of postdoc scientists received a copy of the KI scholarship regulation and signed the affirmation of understanding of it, respectively. **After January 2015, the scenario substantially improved as 74.1% and 77.8% of postdoc scientists received a copy of the KI scholarship regulation and signed the affirmation of understanding of it, respectively**. However, 22.2% of postdoc scientists declared they did not sign the mandatory affirmation of understanding of the KI scholarship regulation².

Importantly, at KI there are **numerous cases of irregularities on the minimum stipend duration** (minimum 12 months since July 2014). Postdoc candidates are still offered stipends of six month duration (private communication to KI Postdoc Association). This phenomenon completely disregards the administrative reasons why KIPA asked and obtained the increase in minimum

¹In the graphs “other” includes “no/ not applicable /not needed”.

²For this question, the data are filtered only to postdocs on scholarship.



stipend duration (difficulties in getting a personal number, opening a bank account, applying for VISA, etc...).

Regarding this latter point, the chairperson at KIPA promptly informed HR central of the issue and the report was ignored (email dated Oct 31st, 2016). KIPA continues receiving requests to clarify why newly arrived postdoc scientists are offered six month scholarships.

Overall, we found that the situation improved comparing the answers given by postdoc scientists³ enrolled before or after January 2015, despite some irregularities (minimum duration of scholarship, signing the understanding of the KI scholarship regulation).

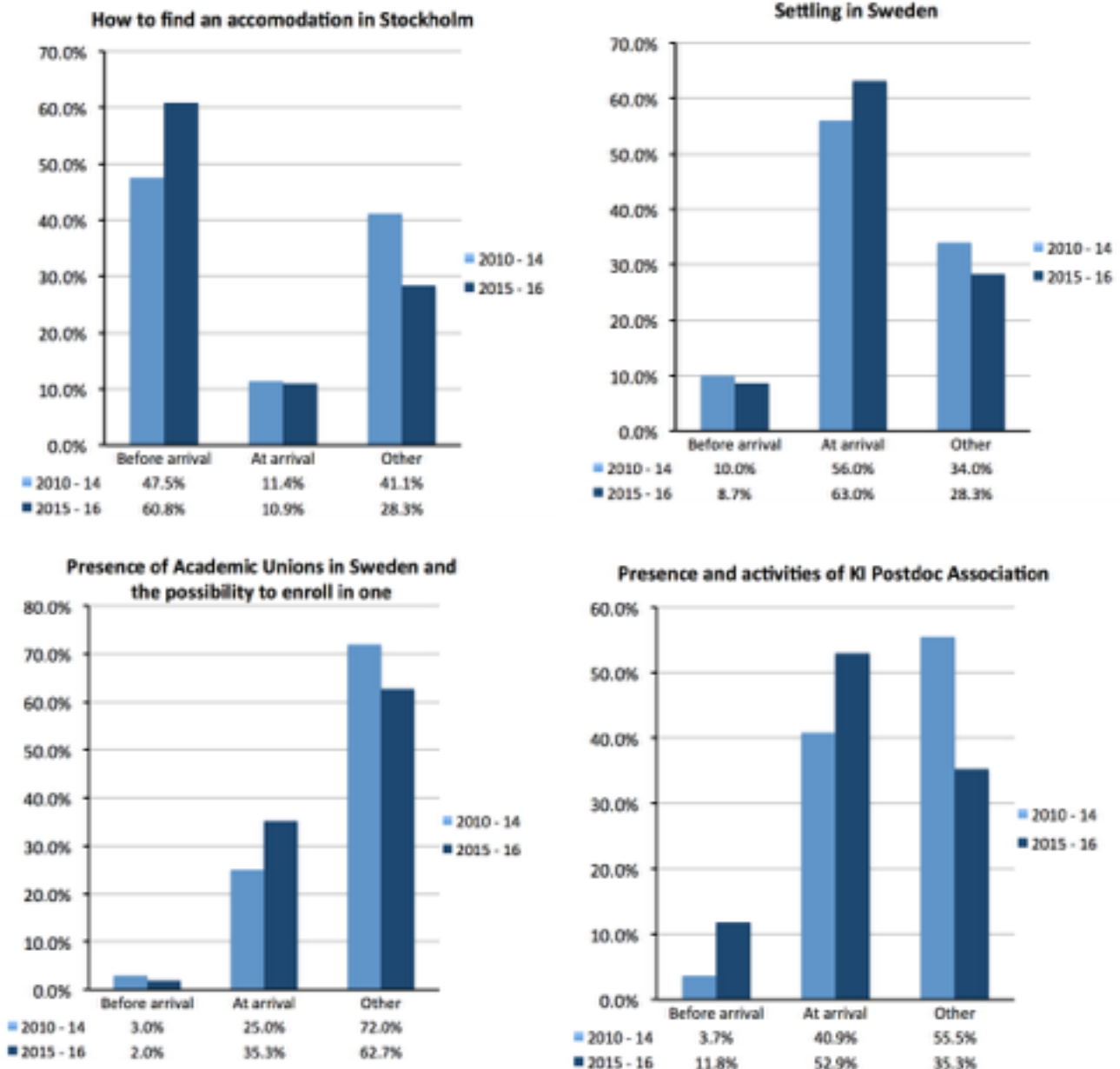
Additionally, the majority of KI postdoc scientists (65.2%) is aware that in Sweden the income is negotiable. Some KI postdoc scientists reported that they were given very little or no opportunity to negotiate their income (private communication to KI Postdoc Association).

³ For this questions the data are filtered only to postdocs on scholarship.

Settling in Sweden

International KI postdoc scientists⁴ collect information about how to find an accommodation in Sweden “before arrival” (total average: 54% of respondents, regardless the year of arrival at KI). These data are reassuring, provided the limited accommodation available in Stockholm and surrounding areas.

However, regarding matters to settle in Sweden (e.g., how to get a personal number, Swedish ID, VISA, bank account) the majority of KI postdoc scientists rely on the information that they receive once at KI campus/hospital. Furthermore, at arrival at KI, postdoc scientists get informed on the presence of Academic Unions and KI Postdoc Association in 39.1% and 63.8% of the cases, respectively.



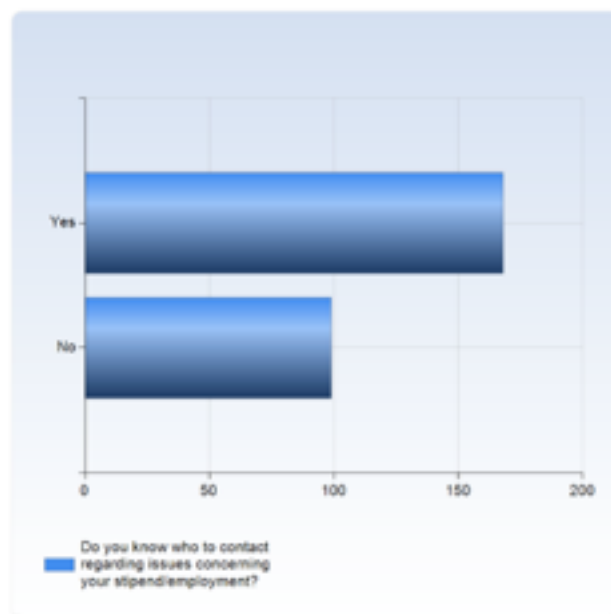
⁴ For this questions the data are filtered only to postdocs moving to Sweden from a foreign country.

Work environment and conditions at KI

Issues concerning stipend/employment

Although the majority of our respondents (62.9%) indicated that they know whom to contact regarding issues related to their contract, still a large number of respondents (37.1%) do not know whom to ask about such issues. **Open-ended comments on this question (Annex B) often mentioned that the administrative staff are not proactive enough in providing relevant information and that some of the documentation available online is only in Swedish.** Thus, the pipeline to pass to KI postdoc scientists information on this matter can be improved both at the KI department level (administrative staff) and the central level ("Internwebben").

Do you know who to contact regarding issues concerning your stipend/employment?	Number of Responses
Yes	168 (62.9%)
No	99 (37.1%)
Total	267 (100.0%)



In spring 2016, we have proposed at HR central to **modify the interview routine at KI to improve communication on administrative matters and routines at KI.** The candidate could seat with the HR representative at the department for about 30 minutes. The HR representative can have a checklist of points to discuss and documents to provide (already available from KIPA or KI International Staff Office). This will avoid confusion and misunderstanding later on. Some units already implement this routine with positive results. HR central was thrilled by this proposal, but, to the best of our knowledge, this has not become a rule.

Regarding the interwebben, we are confident that the KI Communication Office is aware that the site is overcrowded with information not easy to navigate, unless very familiar with the KI administrative structure.

General satisfaction with working conditions

76% of respondents are generally satisfied with their working conditions. Looking at individual comments to this question (Annex B), it seems that the main reasons for this low satisfaction are employment uncertainty, too low income, lack of work-life balance, and lack of social benefits on a stipend. We suggest that KI takes a closer look into ways of **improving work satisfaction** among KI postdoc scientists, as this **would increase their productivity and commitment.** We especially suggest to improve the gap between Swedish versus non-Swedish postdoc scientists. KI postdoc scientists see the opportunity to be a stipend holder when a foreigner with a foreigner PhD degree as **unequal treatment.**

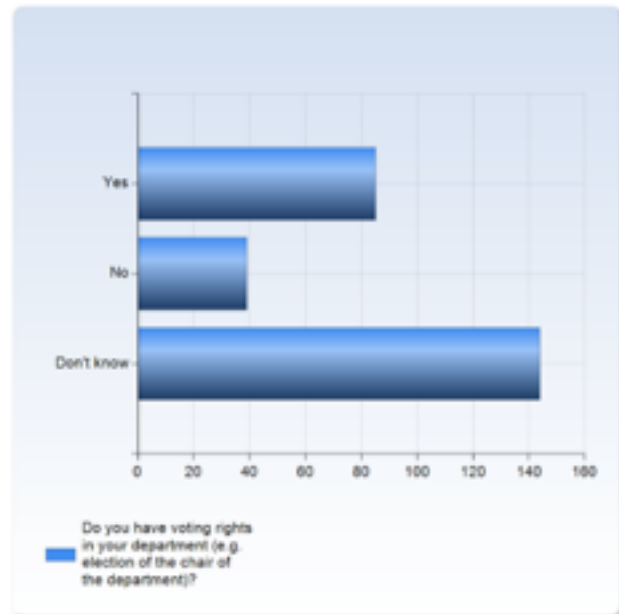
Furthermore, the individual comments also highlighted a **lack of control on Principal Investigators who create a toxic working environment,** even when the issue is reported higher up in the hierarchy.

Active involvement in KI organizational structure

Only 31.7% of our respondents have voting rights (e.g., election of chair at their department or deans). 14.6% of responders do not have such rights and, importantly, most KI postdoc scientists

(53.7%) do not know whether they have such rights or not, suggesting they don't have them. **These results raise a serious concern that many KI postdoc scientists are not or do not feel engaged in the organizational structure and do not have an active role in the decision-making process.**

Do you have voting rights in your department (e.g. election of the chair of the department)?	Number of Responses
Yes	85 (31.7%)
No	39 (14.6%)
Don't know	144 (53.7%)
Total	268 (100.0%)



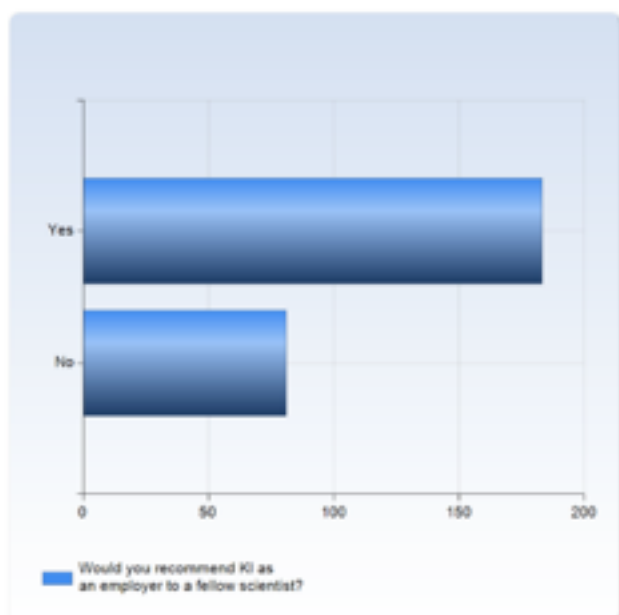
Postdoc scientists have a major active role in the scientific productivity and progress at KI. They participate in designing projects, writing grants and manuscripts. They run the science and train master and PhD students. They implement new techniques and approaches in their host laboratories. PIs know that good postdoc scientists will make the difference in their careers, as PIs do not run the science anymore and are overwhelmed with administrative duties and networking activities. Therefore, it seems very reasonable to extend voting rights to all postdoc scientists, regardless being a stipend holder or an employee.

Postdoc scientists engaged in the organizational structure of their institution are scientists who will be more committed and loyal.

Reputation: Recommending KI as an employer to a fellow scientist.

Most of our respondents (69.3%) indicated that they would recommend KI to a fellow scientist. Looking at the respondents' comments (Annex B), it seems that the opinions are very mixed; while

Would you recommend KI as an employer to a fellow scientist?	Number of Responses
Yes	183 (69.3%)
No	81 (30.7%)
Total	264 (100.0%)



many KI postdoc scientists appreciate KI scientific quality and working conditions on a contract, they strongly emphasize **they would not recommend working on a stipend at KI**. Based on these results we suggest that KI management improves the work agreements. This will benefit postdoc scientists and KI, as it will improve work satisfaction and KI attractiveness.

Information on safety regulations

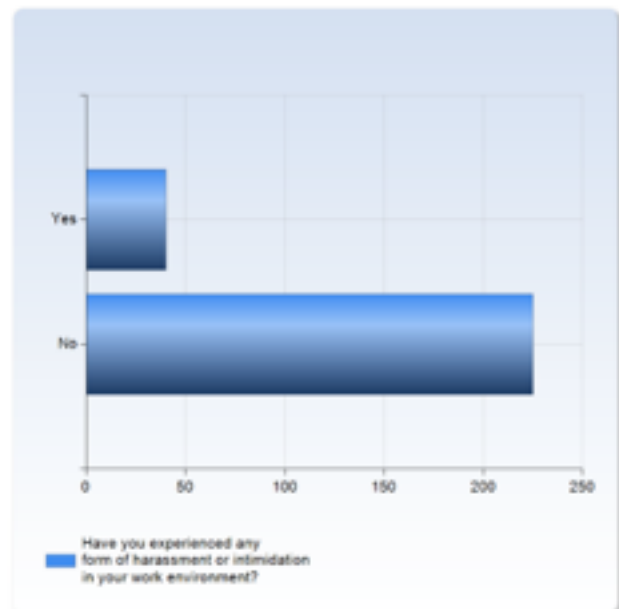
The majority of the respondents (84%) stated that they have been provided with sufficient information about the safety regulations in their department. However, 16% of the respondents did not think they were sufficiently informed. Among these postdoc scientists, 16.7% felt that their work environment was not safe, compared to 2.7% of the postdocs that had received sufficient information about the regulations.

Importantly, 95.1% of the respondents feel their work environment is safe.

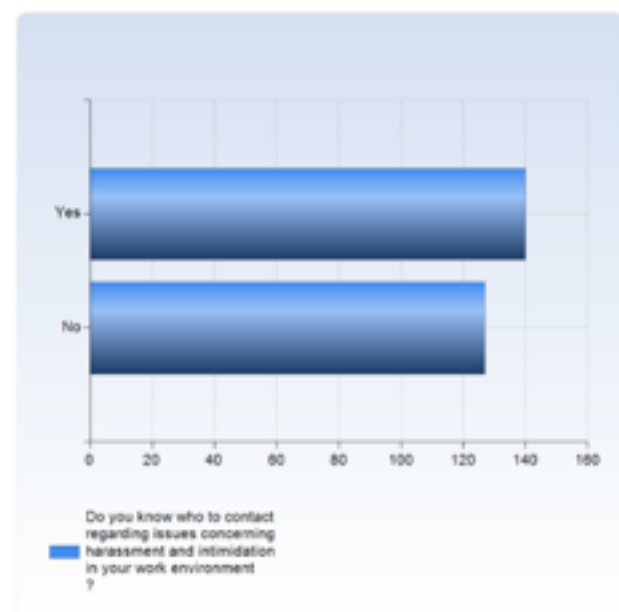
Harassment and intimidation

15.1% of KI postdoctoral scientists reported that they have experienced harassment or intimidation during their time at Karolinska Institutet. In addition, and even more worrisome, **52.4% of KI postdoctoral scientists do not know whom to contact in case of harassment and intimidation**.

Have you experienced any form of harassment or intimidation in your work environment?	Number of Responses
Yes	40 (15.1%)
No	225 (84.9%)
Total	265 (100.0%)

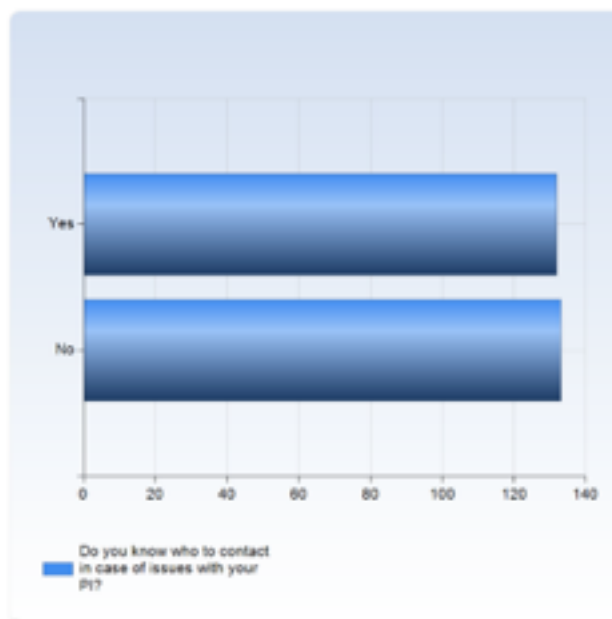


Do you know who to contact regarding issues concerning harassment and intimidation in your work environment ?	Number of Responses
Yes	140 (52.4%)
No	127 (47.6%)
Total	267 (100.0%)



A lack of information on support in cases of conflict seems to be widespread among KI postdoc scientists. Indeed, **about half (50.2%) of the responding postdoc scientists answered they do not know whom to contact in case of issues with their PI.**

Do you know who to contact in case of issues with your PI?	Number of Responses
Yes	132 (49.8%)
No	133 (50.2%)
Total	265 (100.0%)



These data on lack of information indirectly highlights the absence of independent figures, such as an ombudsperson for postdoc scientists. This is an important issue, as postdoctoral time is a critical period and the pressure and complexity of the modern academic environment can lead to conflicts that, in absence of an independent mediator, can escalate. Additionally, postdoctoral scientists should be provided with a work environment that protects and supports them from harassment and intimidation.

In summary, based on the responses to this survey and our daily close contact to postdoc scientists, we conclude that the average postdoc scientist at KI is satisfied with the scientific environment, infrastructure, and opportunities to collaborate. However, they are concerned with important aspect of working conditions (e.g., inequality, lack of transparent and clearly explained and applied rules) and unclear career progression.

Postdoctoral training conditions at KI

Supervision

The majority of responding KI postdoc scientists (79.8%) is content with the amount of supervision they get from their supervisor, while about one fifth (20.2%) does not feel that they get sufficient supervision⁵.

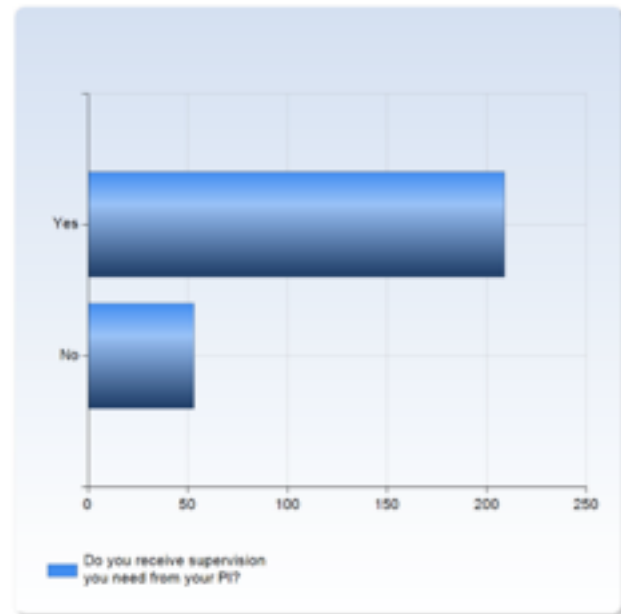
Overall, postdoctoral training conditions are viewed „mildly positive“.

Slightly over 60% of respondents agree, that:

- KI offers enough opportunities to develop scientifically (60.9%),
- there are sufficient scientific networking opportunities (62.1%),
- they receive necessary training for transferable skills (62.6%).

⁵For this question, data are represented as a whole. During the analysis of the survey results, we evaluated whether any group of KI postdoc scientists was overrepresented among the 20.2% who does not receive proper supervision. We found that there is no unequal distribution when the data were filtered by gender, nationality, stipend holder or employment status.

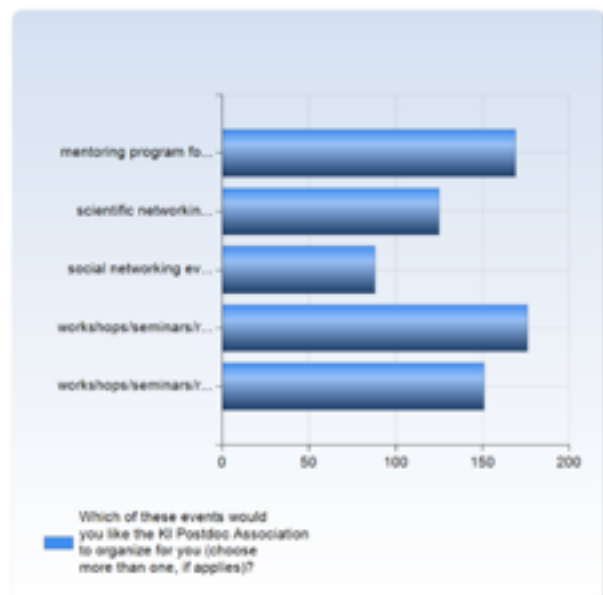
Do you receive supervision you need from your PI?	Number of Responses
Yes	209 (79.8%)
No	53 (20.2%)
Total	262 (100.0%)



At the same time, this means that almost 40% of KI postdoc scientists don't agree to these statements, which leaves considerable space to improve the training conditions for KI postdoc scientists.

As KIPA mission includes the promotion and implementation of professional development targeting KI postdoc scientists, we asked KI postdoc scientists what type of professional training they are interested in. An impressive **82.4% of respondents would be interested in more career coaching**, but the list also includes a **mentoring program for postdoc scientists, scientific network opportunities among fellow postdoc scientists, workshops, seminar or round tables to explore the academic and the non-academic career paths.**

Which of these events would you like the KI Postdoc Association to organize for you (choose more than one, if applies)?	Number of Responses
mentoring program for postdocs	169 (67.1%)
scientific networking events among fellow postdocs	125 (49.6%)
social networking events among fellow postdocs	88 (34.9%)
workshops/seminars/round tables on academic career paths	176 (69.8%)
workshops/seminars/round tables on non-academic career paths	151 (59.9%)
Total	709 (281.3%)



Based on the responses to this survey, we report that there is a need for KI postdoc scientists to:

- 1) get more career support;
- 2) more transparency on career development/progression opportunities and more independent from the lab supervisor;
- 3) the extension of some career development opportunities (e.g., internships in companies) to KI postdoc scientists on stipend.

On the positive side, **KI postdoc scientists recognize the good support and helpfulness of the KI Career Service.**

KIPA proposal to improve postdoctoral working and training conditions

- 1) Ombudsman for postdoctoral scientists to address the insufficient support postdoctoral scientists receive in case of harassment, intimidation, or conflict.
- 2) Extension of voting right to all postdoctoral scientists, regardless employment status.
- 3) Representation for postdoctoral scientists at Departmental Councils and Board of Research. Postdocs are underrepresented, therefore KI leadership has limited and fragmented access to their opinion, concerns, training and working environment conditions. Representation will improve communication between KI leadership, administration, and postdoc scientists. Postdoc scientists at KI are about 1000 trained scientists who run medical research (KI core business) full time. Providing representation to this large active part of the KI community will also increase transparency and improve ethical behavior.
- 4) Improve information provided before joining KI. Having postdoc representatives and changing the interview routine will facilitate this process.
- 5) Better control mechanisms for implementation of current KI regulations (e.g., irregularities on minimum length of scholarship, signing of understanding of scholarship regulation).
- 6) Implementation of new regulations to improve the career system and working conditions for postdoc scientists.
- 7) Implementation of regulations that protects stipend holders, as they are the most vulnerable group within the postdoc community.
- 8) Enrich the postdoctoral training to increase their professionalism, marketability, and career advancement.

KIPA would like to support and be part of the positive changes necessary to improve postdoc working and training conditions and we kindly ask to work together on the matter. We are confident that happier postdoc scientists will run better science for the benefit of KI, medical research, and ultimately human kind.

KIPA has been representing the interests of KI postdoc scientists since its foundation in 2012. We suggest that KI leadership recognizes our efforts and includes KIPA in the ongoing discussion on postdoctoral related matters.

What KIPA can do

- 1) continue survey and monitor KI postdoc scientists' opinions, working and training conditions in order to collect quality data and open a constructive discussion with KI leadership and administration;
- 2) hire a postdoc ombudsman under an agreement similar to MF;
- 3) organize postdoc representation at department and central level;
- 4) co-organize professional development events (Annexes C and D) of high interest for the postdoc community.

Annex B

Survey for Postdoctoral representation

KI Postdoc Association (KIPA) advocates for postdoctoral scientists at Karolinska Institutet. The KIPA executive team identified as beneficial the implementation of formal representation for postdoctoral scientists at Board of Research and the Department Councils.

We believe that the benefits of such representation are threefold:

1. It guarantees better communication between the postdoctoral community and KI leadership;
2. It helps to bring up and solve important issues;
3. The representatives can report the perspectives of their communities while decisions regarding new policies are made.

Therefore, we asked the postdoctoral community at KI their opinion on this matter through a survey. The survey was sent to 1585 people. This group includes virtually all postdoctoral scientists at KI (estimated number: **1000-1100**), KI postdoc alumni, few professors and administrative personnel. 415 people replied. **385** respondents are active postdoctoral scientists at KI, 30 respondents are scientists at KI (including assistant professors and PhD students).

In summary, we had a 26% response rate on the total number of receivers. More importantly, between **35-39%** of the postdoctoral community at KI responded to this survey.

Question #1:

Do you support KIPA's initiative to implement representation of postdocs at the Board of Research and Department Councils?

Yes: 411 respondents (99.03%)

No: 4 respondents (0.96%)

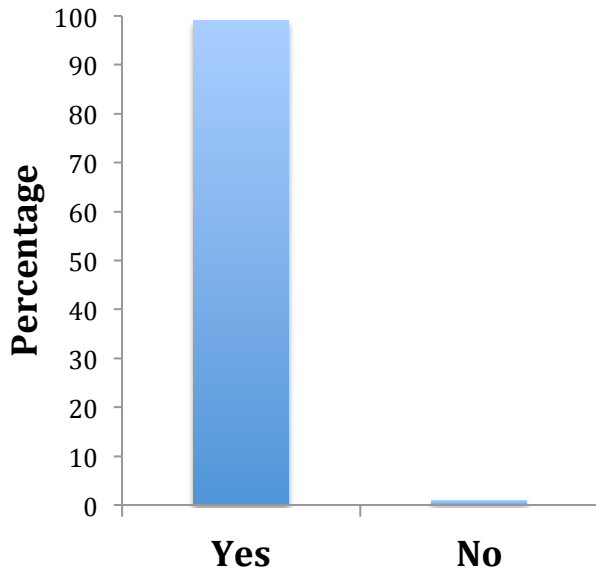
Question #2:

Do you think KIPA represents your interest as a postdoc at KI?

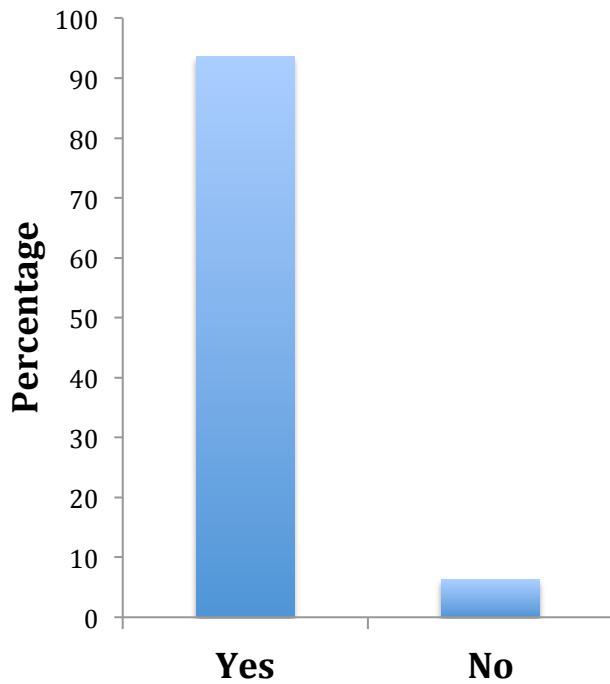
Yes: 341 respondents (93.68%)

No: 23 respondents (6.32%)

Do you support KIPA's initiative to implement representation of postdocs at the Board of Research and Department Councils?



Do you think KIPA represents your interest as a postdoc at KI?



Annex C

1 Juni 2016

Karolinska Institute Postdoc Association

till Regeringskansliet

Betänkandet Yttrande om “Trygghet och attraktivitet – en forskarkarriär för framtiden (SOU 2016:29)”

Synopsis av förslaget

Förslaget “Trygghet och attraktivitet – en forskarkarriär för framtiden” (SOU 2016:29) har som mål att öka mobiliteten och rekryteringen av framstående forskare i och till Sverige och att öka arbetstryggheten. Utredningen fokuserar på frågan hur man ska etablera en akademisk miljö och karriärsystem attraktiv för internationella forskare samt öka Sveriges internationella konkurrenskraft inom forsknings och innovationssektorn.

I utredningen föreslås även att en gräns för behörigheten för oberoende positioner (forskarassistent och biträdande lektor) sätts till fem år efter avlagd doktorsexamen, för att på sätt möjliggöra för forskare att nå arbetstrygghet tidigare under karriären.

Sammanfattning

Karolinska Institute Postdoc Association medger att i det befintliga akademiska karriärsystemet nås permanent anställning och därmed stabilitet och social säkerhet senare i livet jämfört med andra samhällssektorer. Vi uppskattar utredningens försök att förbättra dessa aspekter av den akademiska karriären genom att öka den sociala tryggheten och stabiliteten för unga forskare.

Karolinska Institute Postdoc Association anser däremot att den aktuella utredningen förbiser viktig fakta vad gäller den rådande verkligheten i den akademiska vetenskapliga forskningen. Den syftar till att ändra det akademiska karriärsystemet men har inte analyserat postdoktorer som en forskningskategori. Dessutom underskattar rapporten kraftigt antalet postdoktorala forskare som arbetar i Sverige. En del av de föreslagna ändringarna kommer i högsta grad påverka karriärutvecklingen för postdoktorala forskare. Därtill kan det aktuella förslaget äventyra kunskapsutvecklingen, teknologiska framstegen och innovationerna som är nödvändiga för att Sverige ska nå internationell konkurrens- och attraktionskraft för forskare inom livsvetenskaperna. Detta förslag kan också leda till skadliga effekter på mobiliteten av disputerade forskare.

För att ge ett yttrande om SOU 2016:29, har KI Postdoc Association och Junior Faculty vid Karolinska Institutet genomfört en enkät bland yngre forskare

(postdoktorer, postdoktorala stipendiater och forsknings gruppleddare) för att ge ett uttalande från den delen av forskarsamhället som kommer påverkas mest av förslaget. I detta remissvar sammanfattar KI Postdoc Association resultatet av den undersökningen. Det mest slående resultatet från enkäten är att yngre forskare vid Karolinska Institutet anser att behörighetstiden för Forskarassistent och Biträdande lektor bör förbli sju år efter avlagd doktorsexamen eller inte ha en tidsgräns alls. De samtycker till införandet av en meriteringsanställning samt efterfrågar fyra år av postdoktoral anställningen med möjlighet till förlängning.

Vi diskuterar även vissa parametrar som vi anser utredningen bör utvärdera mer och ger några exempel på internationella akademiska finansieringssystem. Detta för att ge insikt om olika typer av lösningar som vidtagits för att ta itu med vanliga problem i att främja spetsforskningen och anställningstryggheten och deras konsekvenser.

KI Postdoc Association tar detta tillfälle i akt att lyfta fram **det akuta behovet av en statlig utredning i frågan och införandet av postdoktorer i förslaget till ett nytt akademiskt karriärsystem för Sverige**. Representanter från KI Postdoc Association träffas gärna för ett möte med regeringskansliet gällande konsekvenserna av SOU 2016:29 och diskuterar möjliga vägar framåt.

1) Junior Faculty vid Karolinska Institutet (JF-KI) och Karolinska Institute Postdoc Association (KIPA) förenade undersökning av Forskarkarriärutredningen (SOU 2016:29)

576 forskare vid KI svarade på den ovan nämnda undersökningen. 361 (64.1%) svarande var postdoktoral stipendiat, 79 (14.0%) Forskarassistent, 43 (7.6%) Forskare, 53 (9.4%) senior forskare, 40 (7.1%) andra.

Sammanfattning av enkät resultatet

47.2% av de tillfrågade anser att postdoktoral tid bör vara 4 år plus möjlighet till ALVA förlängning (tillåta följd visstidsanställning);

81.8% av de tillfrågade anser att det är viktigt att införa meriteringsanställning;

42.1% av de tillfrågade anser att tidsramen för behörighet att erhålla meriterande anställning (forskarassistent eller biträdande lektor) bör vara 7 år, 36.6% anser att det inte bör finnas någon tidsgräns;

63.9% av de tillfrågade anser att, i händelse av mobilitet för ett eller flera år efter doktorsexamen, bör tiden för behörighet till biträdande lektor förlängas;

46.9% av de tillfrågade anser att benämningen Forskarassistent och Biträdande Lektor bör användas för forsknings- respektive undervisnings fokuserade positioner. 33.2% har ingen stark åsikt i denna fråga;

43.4% av de tillfrågade anser att biträdande lektor anställningen bör vara 6 år, 32.4% 4 plus 2 år som dagens situation;

78.5% av de tillfrågade håller med JF-KI och KIPA att en konsekvens bedömning (att tillåta förutsägelse av utfallet) bör göras för varje enskild förslag för att säkerställa att de främjar lika villkor för alla (kön, etnicitet, ålder, etc)

Sammanfattningsvis tycker forskare, som är i det tidiga stadiet av deras karriär vid Karolinska Institutet, att postdoktorala tiden inte bör begränsas till fem år efter examen utan vara sju år eller ingen tidsgräns alls, att behörigheten till forskarassistent och biträdande lektor bör ha en gräns på sju år eller ingen tidsgräns, att mobiliteten bör tas hänsyn till, och att förslaget utvärderas för att garantera lika möjligheter bland disputerade forskare inom livsvetenskaperna (den fullständiga enkät resultatet presenteras i bilaga till det här remissvaret).

2) Analys av regeringens förslag SOU 2016:29 i förhållande till det nuvarande akademiska forskningssystemet

Det tar längre tid att kvalificera sig för en fast anställning i den akademiska världen än i andra sektorer på grund av svårigheten att mäta och bedöma kandidatens prestation och produktivitet (Sorensen 1992). Länder där ett kunskapsbaserat samhälle främjas, står inför **problemet att fastställa tillförlitliga parametrar för att utvärdera framstående forskare och deras lämplighet som oberoende forskningsledare** (Alberts 2013). Viktigt att poängtera är att tiden som behövs för att åstadkomma gedigen och högkvalitativ forskning varierar kraftigt mellan olika forskningsområden, t.ex. humaniora, samhälls-, livs- eller medicinska vetenskaper och förslaget SOU 2016:29 missade att stratifiera presenterad data efter forskningsfält. Till exempel är Karolinska Institutet ett medicinskt universitet där den biomedicinska forskningen spänner från grundforskning till tillämpad forskning. Mellan 2012 och 2015 anställde Karolinska Institutet 38 Forskarassistenter. 20 (52,6%) av dessa var sökande som tog doktorsexamen fem eller fler år innan ansökningen.

Förslagets syfte är att skydda forskare från att lämna det akademiska karriärsystemet sent i livet. Den nuvarande svenska behörighetsgränsen är sju år efter avlagd doktorsexamen. En minskning av behörighetsgränsen kommer därmed inte ha stor inverkan på disputerade forskares attraktionsvärde på arbetsmarknaden om de lämnar den akademiska sektorn efter fem år istället för sju.

Huvudsakligen, missade förslaget SOU 2106:29 att analysera kategorin av forskare mellan doktorander och gruppleddare, nämligen postdoktorer.

I utredningen rapporteras att vid alla akademiska institutioner i Sverige finns ca 2000 anställda postdoktorer och att innan 2006 var detta antal lika med noll. Likafullt, enbart vid Karolinska Institutet finns det ca 1000 postdoktorer som utgör en betydande drivande arbetskraft (data från januari 2016).

Vi tror att skillnaden mellan de rapporterade uppgifterna och den akademiska verkligheten beror på en begränsad förståelse för anställning som postdoktor i alla dess former. I själva verket kan dagens postdoktorala forskare vid de svenska akademiska institutionerna arbeta under olika typer av avtal: anställning, stipendier, externa anslag eller anställda som forskarassistent. Därför föreslår vi att förslaget revideras med att alla postdoktorala forskare inkluderas och att det etableras en gemensam definition av denna term.

Potentiella nackdelar om attraktivitet och konkurrenskraft av regeringens förslag SOU 2016:29

Den Europeiska kommissionens rapport från 2014, visar att mellan år 2000 och 2013 har det skett en 60 % ökning av andelen 30-34 åringar som har fullföljt eftergymnasial utbildning, av dem totalt 36,8 % doktorer. Det senare värdet förväntas nå 40 % år 2020 i enlighet med prognoserna från Europeiska kommissionen.

En minskning av behörighetstiden för oberoende positioner kommer inte skydda icke anställda forskare från att undvika arbetsmarknads problem. Faktum är att de fortfarande riskerar utträddande från den akademiska världen i fjärde decenniet av deras liv.

Det nuvarande förslaget kan leda till ett karriärsystem som kommer att gynna rekryter som är förtrogna med det svenska akademiska systemet i början av sin forskarutbildning. Dessutom kan förslaget locka mindre innovativa eller risktagande forskare: högrisk-högvinst projekt kräver längre tid att genomföra. Ett sådant karriärsystem skulle kunna bana väg för en ny form av nepotism och en mindre intellektuellt utmanande forskningsmiljö.

Konsekvenserna av dessa förändringar i karriärsystemet kan innefatta en minskning av den svenska internationella attraktionskraften, färre dynamiska nätverk, minskad vetenskaplig prestanda och produktivitet, försenad kunskapsutveckling och överföring av teknik. **I slutändan kan detta negativt påverka den svenska ekonomiska och sociala välfärden.**

Det aktuella förslaget försummar faktorer som är mycket relevanta och **inflytande vid arbetsrelaterade beslut för internationellt konkurrenskraftiga forskare:** intellektuella utmaningar, kreativitet, innovation, karriär, forskningsautonomi, bidragssystemets attraktionskraft, minimal administrativ börda och enkelhet att starta nya forskningslinjer (Researcher Reports 2014 och MORE2 final report 2013).

Disputerade forskare inom EU är missnöjda med deras anställningstrygghet. Men, de är ännu mindre nöjda med sina möjligheter till karriäravancemang (MORE2 final report 2013). Vidare visar MORE2 slutrapporten från 2013 också att forskare finner USAs universitetssystem mer attraktivt att bedriva en självständig forskning på grund av den mer öppna och flexibla struktureringen och ett tydligare anställningssystem.

Sammanfattningsvis är regeringens förslag SOU 2016:29, i dess nuvarande form inte en förbättring av den postdoktorala anställningstryggheten. Den gör karriäravancemang inom den svenska akademivärlden ännu mindre troligt. Den implementerar inte en mer flexibel struktur och främjar inte uppkomsten av högrisk-högvinst inställning.

Eventuella negativa effekter av regeringens förslag på den internationella mobiliteten

Den Europeiska kommissionen är en stark förespråkare för internationell mobilitet under forskarnas yrkesutveckling, särskilt tidigt under karriären. Europeiska forskare rapporterar de **positiva effekterna av mobiliteten** på deras professionella tillväxt och utveckling. De rapporterar även en förbättring av kvalitet i deras arbete, effekten av deras publikationer, patent, och antalet medförfattare i publikationerna. Dock kommer den föreslagna ändringen i det svenska akademiska karriärsystemet motverka mobilitet eller byte av forskningsområde. Internationellt mobila forskare är medvetna om att etableringen i det akademiska systemet och bildandet av ett professionellt nätverk tar längre tid i ett främmande miljö. **Detta skulle inte uppmuntra svenska disputerade forskares mobilitet utanför Sverige. Det skulle även avskräcka internationellt konkurrenskraftiga forskare att etablera sina laboratorier vid svenska institutioner.**

3) Internationell förhållning till arbetsstabilitet, forskningens dragningskraft och konkurrensfrågor inom det akademiska karriärsystemet

Begränsade eller obegränsade postdoktorala perioder och behörighet till oberoende forskningstjänster har testats i bl.a. Storbritannien, Frankrike och Tyskland. Det finns fördelar och nackdelar med alla situationer: debatten i frågan är mycket livlig på både nationell och internationell nivå. Vi rapporterar här några relevanta internationella försök att generera konkurrenskraftiga och attraktiva forskningssystem:

USA. Research Project Grant (R01) är den ursprungliga och historiskt äldsta bidragssystem som används av NIH. R01 ger stöd för hälsorelaterad forskning och utveckling (livs- och medicinsk vetenskap) baserade på uppdrag av NIH.

För den här typen av bidrag (och annan möjlig NIH finansiering), finns det inget kriterium i avseende till tid efter avlagd doktors examen. Det finns möjlighet att få ” **new and early-stage investigator status**” för att kunna kvalificera sig för eventuell förmånlig finansiering.

På grund av denna forskningsfonds långa historia, kunde NIH rapportera en kraftig ökning av medelåldern för erhållna forskningsbidrag, vilket betonar nödvändigheten att med längre tidsram att nå självständighet och konkurrenskraft i den aktuella akademiska forskningsmiljön. Skiftet är från 36-38 år 1980 till 45-48 år 2010 (Biomedical Research Workforce Report, NIH 2012).

EU. ERC starting grant främjar vetenskaplig excellens och konkurrenskraft av forskare och deras forskningsförslag. Sedan dess införande under 2007 har den blivit den mest attraktiva finansieringsmöjligheten för unga forskare i Europa. Bland behörighetskriterier finns en gräns på **7 år efter avlagd doktorsexamen** (ERC hemsida).

När det gäller den postdoktorala utbildningen, syftar det europeiska programmet **Marie Skłodowska-Curie Action** till att utbilda nästa generation av forskningsledare. Detta program **har ingen gräns för tid efter avlagd examen för behörigheten**. I detta program är parametrar som till exempel kvalitet och sundhet av forskningsplanen samt mobilitet, fundamentala för en framgångsrik ansökan (Europeiska kommissionens portal).

UK. MRC tog bort tiden efter examen från sina urvalskriterier som svar på forskarnas heterogena behov att visa deras meriter och vetenskaplig kompetens. MRC resonerade att **framgång inom vetenskaplig forskning kräver förmågor som uthållighet, engagemang, att bygga nätverk, och en hel del experimentella trial and error**. Dessa drag byggs upp under lång tid och sker inte i samma takt för alla forskare (MRC hemsida).

Frankrike. Under 2012, antog Frankrike en lag, **Loi Sauvadet**, som tvingade universitet att erbjuda fast anställning till forskare som hade 6-års visstidsanställning efter avlagd doktorsexamen. **Syftet var att öka anställningstryggheten**. Dock gjorde den nya lagen det **svårare för postdoktorer (nästa generations forskningsledare)**

att få oberoende positioner eller att få sina kontrakt förnyade när det närmade sig 6-års gränsen.

Franska postdoktorala forskare rapporterade också att genomförandet av denna lag **minskade deras engagemang för vetenskaplig forskning** eftersom de konstaterade att deras vetenskapliga insatser och åtagande ledde ingenstans förutom till en ändrad karriärväg. Genomförandet av denna lag genererade ett system där forskare tvingas ut ur akademien när de har blivit mest produktiva och vetenskapligt mogna. Detta beror på **institutionernas rädsla för skyldighet att erbjuda tillsvidare kontrakt** till mer seniora disputerade forskare. Som en följd av detta får franska postdoktorala forskare ofta sparken efter 5 års visstidsanställning, oavsett den vetenskapliga utvecklingen, med en skadlig inverkan på vetenskaplig tillväxt i Frankrike (Science, Apr 30th, 2015).

Tyskland. Den tyska lagen om akademisk forskning var ursprungligen tänkt att begränsa postdoktorala kontrakt till 6 år efter doktorsexamen när de betalas av universitet. Men korttidskontrakt är även tillåtna efter denna tidsgräns om de har extern finansiering. Som det har rapporterats i "The future of the postdoc", blir resultatet att forskare surfar oändligt från en postdok till en annan. Faktum är att tyska postdoktorer riskerar obegränsat antal korttidskontrakt. **Det verkliga problemet för tyska postdoktorer är att det inte finns tillräckligt med permanenta anställningar tillgängliga** (Nature 07 April 2015).

4) Heterogeniteten i den Europeiska doktorala och postdoktorala utbildningen.

Europa har inte en harmoniserad doktorandutbildning, men det finns EU-riktlinjer som genomförs för att uppnå detta mål. Nuvarande postdoktorer startar därför sin utbildning från **olika utgångspunkter. Detta kan påverka deras postdoktorala tid.** Till exempel fokuserar det svenska doktorandsystemet på vetenskaplig utbildning och resultat som kräver att doktorander har ett visst antal publicerade artiklar och manuskript för att kvalificera sig för examen. Andra system (Storbritannien, Frankrike, Italien och Tyskland) fokuserar på inlärningsprocessen mer än vetenskaplig produktivitet som i vissa fall sätter en tidsgräns för examen (3-4 år).

5) Sammanfattning av de negativa konsekvenserna av regeringens förslag SOU 2016:29

Sammanfattningsvis riskerar en begränsning av behörigheten till oberoende positioner till fem år efter examen, ha **betydande negativ inverkan på de föreslagna målen** att förhöja Sveriges konkurrens- och attraktionskraft inom forsknings- och innovationssektorn.

I själva verket riskerar det nuvarande förslaget att minska:

- Kreativitet och innovation. Disputerade forskare kommer inte att vara villiga att åta sig högrisk-högvinst projekt;
- Kvalitet och tvärvetenskaplig forskning. Disputerade forskare kommer behöva “skynda på” för att uppnå forsknings oberoende;
- Sveriges attraktionskraft för internationella ambitiösa välutbildade postdoktorala forskare;
- Den svenska vetenskapliga produktiviteten.

Detta kommer att hindra utveckling av kunskap, teknik och innovation som krävs för att Sverige ska nå internationell konkurrens- och attraktionskraft inom livs- och medicinsk vetenskap.

Sist men inte minst kommer de lagändringar som den här utredningen föreslår djupt påverka den postdoktorala utbildningen, men den överser totalt postdoktorernas roll, samt deras arbets- och professionella förutsättningar. Vi tar detta tillfälle i akt att lyfta fram det **akuta behovet** av en statlig utredning i frågan och **införandet av postdoktor i förslaget i ett nytt akademiskt karriärsystem för Sverige**. Representanter från Karolinska Institute Postdoc Association träffas gärna för ett möte med regeringskansliet gällande konsekvenserna av SOU 2016:29 och diskutera möjliga vägar framåt.

Elisa Floriddia, KIPA Ordförande

på uppdrag av Karolinska Institute Postdoc Association

Referral response to “Trygghet och attraktivitet (SOU 2016:29)”

June 1st, 2016

From: Karolinska Institute Postdoc Association

To: Regeringskansliet

Subject: Referral response to “Trygghet och attraktivitet – en forskarkarriär för framtiden (SOU 2016:29)”

Synopsis of the proposal

The proposal “Trygghet och attraktivitet – en forskarkarriär för framtiden” (SOU 2016:29) aims to increase mobility and recruitment of international excellent researchers/talents to Sweden and job security. The golden goals of the proposal are to establish an academic environment and a career system appealing to the most competitive international researchers and increase international competitiveness of Sweden in the research and innovation sector.

In this proposal, it is also suggested to set the limit of eligibility for independent positions (forskarassistent and biträdande lektor) to five years after PhD graduation, in order for PhD scientists to reach job security earlier in their careers.

Summary of the referral response

Karolinska Institute Postdoc Association recognises that within the current academic career system, permanent employment, and therefore stability and social security are reached later in life compared to other sectors. We acknowledge the aim of this proposal to improve those aspects of the academic career path by increasing social security and stability for young researchers.

Karolinska Institute Postdoc Association thinks, however, that the current proposal overlooks important facts of the current scientific research reality. Importantly, this investigation aims to change the academic career path and did not analyse the postdoctoral scientists category. Additionally, the report greatly underestimates the number of postdoctoral researchers working in Sweden.

However, some of the proposed changes will greatly impact the career development of postdoctoral scientists. Moreover, this proposal could jeopardise the advancement of knowledge, technology, and innovation necessary to reach international competitiveness and attractiveness of Sweden for competitive researchers in the life sciences. This proposal could also have detrimental effects on the mobility of PhD scientists.

To provide an informed response to SOU 2016:29, Karolinska Institute Postdoc Association and Junior Faculty at Karolinska Institute conducted a survey among the

early-career scientists at Karolinska Institute (mostly postdoc fellows and principal investigators). In this referral response, Karolinska Institute Postdoc Association summarises the results of this survey to provide the opinion of the part of scientific community mostly affected by the proposal. Strikingly, early-career scientists at Karolinska Institute express the need to keep the eligibility time for Forskarassistent and Biträdande Lektor of seven years after PhD graduation or change it to no time limit. They agree with the institution of a tenure-track system. Also, they ask for four years of postdoctoral training with possibility of extension.

We also discuss some parameters that we think the investigation should value more before to reach a final proposal and some examples of international academic and funding systems. In order to provide insights on different kind of solutions taken to address the common issue to promote research excellence and job security and their consequences.

Karolinska Institute Postdoc Association takes this occasion to highlight the **urgent need** of a government investigation on postdoctoral scientists and the **inclusion of the postdoctoral researcher figure in the proposal of a new academic career system for Sweden**. The representatives of Karolinska Institute Postdoc Association will be happy to meet with regeringskansliet and discuss the consequences of SOU 2016:29 and the role of postdoctoral researchers in academia.

1) Junior Faculty at Karolinska Institute (JF-KI) and Karolinska Institute Postdoc Association (KIPA) Joint Survey on Research Career Government Proposal (SOU 2016:29)

576 scientists at KI replied to the above mentioned survey. 361 (64.1%) respondents were postdoc fellows, 79 (14.0%) Forskarassistent, 43 (7.6%) Forskare, 53 (9.4%) senior forskare, 40 (7.1%) other.

Summary of survey results

47.2% of respondents think that postdoctoral time should be 4 years plus possibility of ALVA extension (allow consecutive fixed-term employment);

81.8% of respondents think that it is important to instate a tenure-track system;

42.1% of respondents think that the time frame of eligibility to obtain a meriting position (forskarassistent or biträdande lektor) should be 7 years, **36.6%** think there should be no time limit;

63.9% of respondents think that, in case of mobility of one or more years following PhD graduation, time of eligibility for the biträdande lektor should be extended;

46.9% of respondents think that the term Forskarassistent and Biträdande Lektor should be used for research-focus and teaching-focus positions, respectively. **33.2%** does not have a strong opinion on this matter;

43.4% of respondents think that the biträdande lektor position should be 6 years, **32.4%** 4 plus 2 years as it is now;

78.5% of respondents agree with JF-KI and KIPA that an impact assessment (allowing prediction of the outcome) should be made for each suggestion to ensure they promote equal opportunity for all (gender, ethnicity, age, etc... neutral).

In summary, the early-career scientists at Karolinska Institute think that postdoctoral time should not be limited to five years after graduation but be seven years or no limit, the eligibility for forskarassistent and biträdande lektor should have a limit of seven years or no time limit, mobility should be taken into account, and the proposal should be evaluated in order to guarantee equal opportunities among the PhD scientists in the life science (the full survey results are presented as annex to this referral response).

2) Analysis of the government proposal SOU 2016:29 in relation to the current academic research system

It takes longer to qualify for a permanent position in academia than in other sectors, due to the difficulty in measuring and judging the candidate's performance and productivity (Sorensen 1992). The countries where a knowledge-based society is promoted face the **issue to determine reliable parameters to evaluate excellent researchers and their suitability as independent research leaders** (Alberts 2013). Importantly, the time necessary to accomplish sound and high impact research varies substantially across fields of research, e.g. social, physical, life, or medical sciences, and the proposal SOU 2016:29 missed to stratified the presented data by field of research. For instance, Karolinska Institutet is a medical university where biomedical research span from basic to applied. Between 2012 and 2015, Karolinska Institutet selected 38 faculty funded Forskarassistent positions. 20 (52.6%) of these positions where granted to applicants who graduated five or more years before the call.

The proposal aims to protect researchers from exiting the academic career system too late in life. The current Swedish eligibility limit is seven years after PhD graduation. We therefore presume that the proposed reduction to five years will not have a major impact on the marketability of researchers when exiting the academic sector after five instead of seven years.

More importantly, the proposal SOU 2016:29 missed to analyse the category of scientists in between PhD students and principal investigator positions in the academic career ladder: postdoctoral scientists. In the proposal, it is reported that in all the Swedish academic institutions around 2000 postdocs are employed and that before 2006 this number was equal to zero. However, only at Karolinska Institutet, about 1000 postdoc scientists perform their research and constitute a driving work force (data from January 2016).

We believe that the discrepancy between the reported data and the academic reality is due to a limited understanding of the postdoctoral position in all its forms. Indeed, postdoctoral scientists can currently work in Swedish academic institutions under different kind of agreements: contracts, stipends, external fellowships, or employed as research associate. Therefore, we suggest to revise the proposal including postdoctoral scientists and establishing a common definition of this figure.

Potential drawbacks on attractiveness and competitiveness of the government proposal SOU 2016:29

The European Commission report 2014 shows that, between 2000 and 2013, there has been a more than 60% increase in the share of 30-34 age group who have completed tertiary education, for a total of 36.8% of PhD graduates. The latter value will reach 40% by 2020 accordingly to the projections of the European Commission.

Therefore, the reduction of eligibility for independent positions to five years will not protect non-tenured independent researchers to avoid marketability issues. Indeed, they still risk exiting academia in their fourth decade of life.

The current proposal could result in a career system that will favor trainees who are familiar with the Swedish academic system early in their scientific training. Furthermore, the proposal might attract less innovative or risk-taking

scientists: high-risk high-gain projects require longer time to be accomplished. Such a career system could pave the way for a new form of nepotism and a less intellectually challenging research environment.

The consequences of these changes in the career system might include a decrease of the Swedish international attractiveness, fewer dynamic networks, decreased scientific performance and productivity, delayed advancement of knowledge and technology transfer. Ultimately, **this could negatively impact the Swedish economic and social welfare.**

The current proposal neglects factors highly relevant for **influencing job decisions for internationally competitive researchers**: intellectual challenge, creativity, innovation, career prospects, research autonomy, attractiveness of grant system, minimal administrative burden, and ease of start new lines of research (Researcher Reports 2014 and MORE2 final report 2013).

EU postdoctoral researchers are dissatisfied with their job security. However, they are even less satisfied with their opportunities of career advancement (MORE2 final report 2013). Furthermore, the MORE2 final report 2013 also shows that researchers find the USA university system more attractive to pursue an independent position due to the more open and flexible structure and a more clear tenure-track system.

In summary, the government proposal SOU 2016:29 in its current form does not improve postdoctoral job security. It makes career advancement in the Swedish academic career ladder even less likely. It does not implement a more flexible structure and does not promote the generation of a high-risk high-gain mind setting.

Potential negative effects on international mobility of the government proposal

The European Commission is a strong promoter of international mobility during researchers' professional development, especially at early career stages. European researchers report the **positive impact of mobility** on their professional growth and development. They also report improvement of the quality of their work, impact of their publications, patents, and number of co-author publications. However, the proposed change in the Swedish academic career system will discourage mobility or change of research field. Internationally mobile researchers are aware that the establishment in the academic system and formation of a professional network will take longer in a foreign environment. **This would discourage Swedish scientists to leave Sweden for their training. It would also discourage internationally competitive researchers to establish their laboratories in Swedish institutions.**

3) International approaches to the job stability and research attractiveness and competitiveness issues in the academic career system

Term limited or unlimited postdoctoral period and eligibility for independent research positions have been tested in UK, France, and Germany, among other

countries. There are benefits and drawbacks in all cases: the debate on the matter is very lively both at international and national level. We report some relevant international attempts to generate competitive and attractive research systems:

USA. The Research Project Grant (R01) is the original and historically oldest grant mechanism used by NIH. The R01 provides support for health-related research and development (life and medical sciences) based on the mission of the NIH.

For this type of grant (and other NIH funding opportunities), there is no eligibility criterion regarding time after PhD graduation. There is the opportunity to get “**new and early-stage investigator status**” in order to qualify for possibly preferential funding.

Due to the long history of this research fund, NIH could report a substantial increase in the age peak of granting R01 funding along time, highlighting the necessity of longer time to get to a level of independence and competitiveness in the current academic research environment. The shift is from 36-38 years of age in the 1980 to 45-48 in 2010 (Biomedical Research Workforce Report, NIH 2012).

EU. ERC starting grant promotes scientific excellence and competitiveness of the researchers and their research proposals. Since its implementation in 2007, it became the most appealing funding opportunity for young investigators in Europe. Among the eligibility criteria, there is the limit of **7 years after PhD graduation** (ERC website).

In case of postdoctoral training, the European program **Marie Skłodowska-Curie Action** aims at training the next generation of research leaders. This program **does not set a limit of time after graduation** for eligibility. Indeed, in this program, parameters like quality and soundness of the research plan and mobility are fundamental for the success of the application (European Commission portal).

UK. MRC removed the time after graduation from its eligibility criteria in response to the researchers' heterogeneous needs to demonstrate their track record and scientific excellence. MRC reasoned that **success in scientific research requires abilities such as perseverance, commitment, network buildings, and a lot of experimental trial and error**. Those features are built over time and not at the same pace for all researchers (MRC website).

France. In 2012, France passed a law, **Loi Sauvadet**, which enforced universities to offer permanent contracts to researchers who had 6 years of fixed-term contracts after PhD graduation. **The aim was to increase job security**. However, this new law made **more difficult for postdoctoral fellows (the next generation of research leaders) to access independent positions** or getting their contracts renewed once closer to the 6 years term.

French postdoctoral scientists also reported that the implementation of this law **decreased their engagement to scientific research**, as they observed their scientific effort and commitment led nowhere but a change of career path. The implementation of this law generated a system where researchers are pushed outside academia when they become the most productive and scientifically mature. This is due to the **fear of**

institutions to be obliged to offer open-end contracts to more senior postdoctoral researchers. As a consequence, French postdoctoral trainees are frequently fired after 5 years of fixed-term contracts, regardless of the scientific progress, with a detrimental impact on scientific growth in France (Science, Apr 30th, 2015).

Germany. the German law on academic research was originally thought to limit postdoc contracts to 6 years after PhD, when paid by universities. However, short term contracts are allowed also after this deadline, if founded externally. As reported in “The future of the postdoc”, the result is that scientists surf endlessly from one postdoc to another. Indeed, German postdocs risk to have an unlimited number of short-term contracts. **The real problem for German postdocs is that they don’t have enough permanent positions available** (Nature 07 April 2015).

4) Heterogeneity of the European doctoral and postdoctoral training.

Europe does not show a harmonic doctoral training program. There are EU policies that are implemented to achieve this goal. However, current postdoc trainees start their postdoctoral path from a **heterogeneous starting point. This can affect the length of their postdoctoral time.** For instance, the Swedish doctoral system focuses on the scientific training and achievements, requiring the PhD candidates to have a certain number of papers and manuscripts to qualify for graduation. Other systems (UK, France, Italy, and Germany) focus on the learning process more than scientific production, in some cases putting a time limit to graduate (3-4 years).

5) Summary of the negative consequences of the government proposal SOU 2016:29

Overall, restricting the eligibility for independent positions to five years after graduation risks to have a **substantial negative impact on the proposed goals** to increase competitiveness and attractiveness of Sweden in the research and innovation sector.

Indeed, the current proposal risks reducing:

- Creativity and innovation. Postdoctoral researchers will not be willing to undertake high-risk high-gain projects;
- Quality and interdisciplinary of scientific research. Postdoctoral researchers will have to “hurry up” to achieve research independence;
- Attractiveness of Sweden for international ambitious highly trained postdoctoral scientists;
- Scientific productivity of Sweden.

This will hinder the advancement of knowledge, technology, and innovation necessary to reach international competitiveness and attractiveness of Sweden for researchers in the life and medical sciences.

Last but not least, this proposal regards changes in policy that will deeply affect postdoctoral training, but it completely overlooks the postdoctoral trainees' role and working and professional development conditions. We take this occasion to highlight the **urgent need** of a government investigation on the matter and the **inclusion of the postdoctoral researcher figure in the proposal of a new academic career system for Sweden**. The representatives of Karolinska Institute Postdoc Association will be happy to meet with regeringskansliet and discuss the consequences of SOU 2016:29 and the role of postdoctoral researchers in academia.

Elisa Floriddia, KIPA Chair

on behalf of Karolinska Institute Postdoc Association