

Chaperoning junior faculty

Institutional support and guidance can relieve challenges for early-career group leaders and improve academic performance

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The initial excitement of finally leading an independent research group is quickly followed by the realization that it comes with novel challenges. The first day as a principal investigator sets the clock ticking on limited time and opportunities to publish and apply for grants and awards that all are required for tenure or the next job. Expectations are high: PIs must be outstanding scholars who establish their own research program, excel in teaching, and are helpful colleagues and mentors for their students and postdocs. Meeting such high expectations with little experience can cause anxiety and stress. Moreover, we are often our own worst critics; meeting high self-expectations can be demanding even without external pressure. Based on our experiences as junior faculty, we herewith suggest a set of measures that could help early-career group leaders to better handle this stress and allow them—and their host institutes—to flourish.

The role of academic institutions

A recent survey suggested that starting a research group today is perhaps more difficult than ever [1]. Several junior faculty members describe the unforeseen challenges associated with this career stage and the negative impact on their personal well-being and productivity [2]. Existing funding schemes are one reason for this problem, as young investigators in many places have inadequate financing to pursue their research [3]. This could be addressed by funding agencies that could adapt their schemes to better support young scholars to

pursue innovative research [3]. While adequate and fair funding schemes are certainly instrumental for scientific freedom and success, we also feel it is important to put the spotlight on the role of institutional policies [4]. Here, we describe measures and policies for institutions to better support the launch of principal investigator careers.

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Junior scientists like ourselves pursue careers in academia because we are passionate about research. Yet we are less prepared to handle many other tasks that come with leading a research group. In our experience, there are many ways how the integration of junior researchers into their first academic leadership positions can be improved. We refer to this process as “chaperoning” by analogy to protein folding whereby newly formed proteins critically depend on the support of chaperoning proteins to mature into their functional state.

Indeed, the local environment plays a pivotal role for the performance of starting faculty members. Formal policies and informal measures by host institutes to chaperone junior faculty during the critical early years will bring several benefits, not only to the institutes themselves but also to science at large. Harnessing the enthusiasm of junior investigators can invigorate institutional culture and set positive role models for the

next generation of scientists. Nurturing the creative potential of junior investigators will help them along the path to become leaders in their own field [5]. Creating a conducive climate for junior faculty will also help to retain more female scientists in academic careers, plugging the leaky pipeline at its largest bottleneck, the transition from post-doc to group leader [6].

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While there is no single, one-size-fits-all recipe to chaperone junior faculty, some generally successful policies can be identified. Collaborative on Academic Careers in Higher Education (COACHE) conducted a comprehensive survey on the professional satisfaction of junior faculty members at six US universities [7]. This survey, summarized by Trower & Gallagher [8], identified several resources which junior faculty found important for their success. Lack of time and money was a key limiting resource, but they also highlight the importance of clear expectations and requirements for tenure, mentoring, and collegiality. A decade later, we revisit this survey [7,8] and add our own experience as group leaders outside the United States to define general and relevant

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areas where host institutes and junior faculty can work together.

Starting on the right foot

Junior group leaders are selected for their academic position based on scientific merit, but most of them have little experience in other important aspects of their new assignment, including managing a team, mentoring, writing grants, academic leadership, and teaching. They often come from a different institute and country, and are therefore unfamiliar with the regulations and working culture of their host institution. To ensure that both group leader and institute benefit, the host should aid newly arriving junior faculty to launch their own research project and to integrate them into the community. In one of our institutes, a “how-to” guide with valuable information and recommendations for newcomers has proven very valuable. The host institute should also establish a timeline for allocating finance and laboratory space, and recruitment procedures well before the new faculty member arrives.

“Recruiting talented postdocs and motivated students is difficult—even more so for junior faculty who are not well established in the community.”

Establishing good communication with key personnel in administration, IT, HR, and finance departments is crucial as is support for dealing with the country-specific and institute-specific regulatory nuances related to laboratory work, biosafety, and clinical research. In addition, giving group leaders a grace period of 1 year before they have to start teaching or a year off teaching before they need to submit tenure papers could also make a valuable difference. Informal get-togethers or a seminar with the whole department would be a nice welcome gesture and give starting faculty members an opportunity to get to know and interact with the institute’s research community.

Defining expectations

A “welcome package” and introduction should also clarify what the host institute

expects from their new faculty members beyond research. A structured and clear account of expected teaching load, service commitment, and intellectual leadership makes sure that everyone is on the same page and helps to distribute such tasks fairly among the community. This becomes particularly important for joint and affiliate appointments to two or more departments.

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It is important that institutional expectations for junior faculty do not distract from or interfere with their career prospects, either in terms of getting tenure or finding a job elsewhere. Young PIs in tenure-track positions have vested interest in contributing to their long-term intellectual home; but committee and administrative work inevitably distract from their more important tasks of research, training, and teaching. Since these additional responsibilities are time- and energy intensive, formal policies should ensure that these efforts are appropriately recognized for evaluating tenure. Having a well-defined position with transparent expectations and a clear path to the next career stage will reduce anxiety about the future and help young faculty members achieve top performance. Indeed, excellent institutions stand out not only for their research and their ability to attract funding, but also for cultivating talent, which is measured on a longer time scale.

Support for funding and recruitment

Providing sufficient startup funding for junior faculty to recruit students and postdocs and to obtain essential reagents and equipment will help them to generate results, which is crucial for securing external grants. Critical and constructive feedback from senior faculty is immensely helpful during preparation of the first independent research proposals. Easy access to grant coaches and writing workshops, especially for non-native English speakers, can also

help new faculty to surmount the initial barriers of attracting competitive funding.

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Recruiting talented postdocs and motivated students is difficult—even more so for junior faculty who are not well established in the community. Institutions can support their recruitment efforts by lending their advertisement channels and by organizing joint recruitment seminars. Such platforms will likely draw wider interest among candidates and give junior faculty an opportunity to excite prospective students and postdocs with their ideas and research programs. Having experienced senior faculty provide feedback on job applicants can be very helpful when inexperienced junior faculty members recruit their first students.

Mentoring

New faculty members face unfamiliar and challenging situations, which at times can feel overwhelming. Regular meetings with a senior faculty member who can give honest and constructive feedback will help them to deal with such situations and promote positive outlook. In addition to institutional mentors, it is often beneficial for new faculty to proactively seek advice on research and future career steps from scientists from other institutes. Senior faculty’s investment in juniors can provide positive returns in many ways, such as institutional initiatives, new technologies, and reverse mentoring [9]. Institutes should also provide possibilities for early-career group leaders to participate in research leadership courses that provide training in management and mentoring skills and prepare them for unforeseen challenges.

Junior faculty members are typically not experienced teachers and providing them with resources and assistance in lecture preparation and classroom technology can be helpful. Professional guidance on pedagogical mentors can be useful for preparing the first classes and throughout the transition toward professorship. Opportunities to

obtain feedback on teaching from senior colleagues and students are vital. Again, well-planned early investments can pay long-term institutional dividends by improving students' learning results and overall satisfaction with the educational experience.

A supportive and collegial atmosphere

Many people are most productive when they feel part of a community. One of the daunting changes associated with transitioning into a leadership role is losing the feeling of being part of a group. The loneliness associated with the postdoc-to-PI transition can be further exacerbated by the move to a new institution and new country. Creating an open culture of mutual support and generous sharing within the institution will help to alleviate these feelings. Initiatives such as informal faculty lunches can help members of the community to know each other better. For instance, the Weizmann Institute regularly hosts a young group leaders support group/forum to openly discuss problematic issues and share solutions in the form of a moderated group discussion among peers [10]. An open climate can also lead to fruitful in-house collaborations that glue faculty together. New junior faculty often bring plenty of revitalizing energy, new viewpoints, technologies, ideas, and concepts. Institutions ought to embrace and harness this by finding ways to support their efforts.

Supporting a balanced life

The start of the first independent position in academia often coincides with major changes in personal life, such as starting or expanding a family, which creates new challenges, especially for female scientists. Pre-tenure faculty often worry about how to fit family life around the demands of work [8]. Many women therefore leave academia for alternative careers: While the ratio of female to male postdocs is roughly one to one, this ratio drops precipitously at the group leader level [6]. The resulting gender imbalance reduces the talent pool and is a major failure of academia that needs to be urgently addressed by providing stable support for families.

Institutions can adopt policies to help reconcile work and private life, such as offering parental leave and scheduling meetings and seminars during office hours. Providing on-campus housing and daycare is a long-term investment that increases the attractiveness for recruiting new faculty. Many scientific collaborations have started by scientists chatting at daycare and playgrounds. Moreover, it creates a sense of community and mutual commitment that allows faculty who are also parents—female and male—to fully engage in their scientific careers. It is also important that parents with dependent children have opportunities to travel to meetings. For instance, some institutions provide them with financial support to arrange childcare, which allows them to take part in scientific meetings that are important for their careers.

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In conclusion, we define institutional chaperoning as collaborative leadership to create a supportive, fair, and equal climate for all members, an atmosphere in which the interests of the institution and their junior faculty are aligned for joint, long-term success. The skewed relationship of supply and demand for junior faculty positions must not embolden institutions to shirk their responsibilities to develop the talent that they have recruited, just as junior faculty have responsibilities to the members of their research groups. Recognizing areas that need improvement and taking action is good leadership, and such investments will pay back in terms of excellence in science. The best institutions will always stand out because of the talent they are able to foster.

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Conflict of interest

The authors declare that they have no conflict of interest.

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