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Best Practices for Postdoc Career Support in the Life Sciences

A Hands-On Guide for Research Institutions

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GRAPHIC SUMMARY

5 BEST PRACTICES FOR POSTDOC CAREER SUPPORT IN THE LIFE SCIENCES



A Hands-On Guide for Research Institutions

INSTALLING A POINT OF CONTACT FOR POSTDOCS



Postdoc Support Office or a counsellor for advice on training, career development, conflicts and well-being

PROMOTING EARLY INDEPENDENCE



- Support for grant application
- Dedicated development track
- Own project funding
- Increased visibility
- Higher salary / salary supplement
- Possibility to publish as last author
- Option to apply for junior group leader

PROVIDING APPROPRIATE WORKING CONDITIONS



- Help with finding child care
- Flexible working hours
- Holding meetings during the core working hours
- Psychosocial counselling by external experts

TRAINING KEY SKILLS



- Science & writing
- Leadership
- Communication
- Teaching, mentoring
- Ethics, diversity

PROVIDING CAREER SUPPORT



- Online resources
- Chalk talks / mock interviews
- Regular performance assessment
- Mentoring
- Career guidance sessions

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PREFACE

Postdoctoral researchers in the life sciences are defined as holding a PhD and working on fixed-term contracts in academia without being group leaders. They are highly qualified scientists with a track record of overcoming obstacles in a self-driven and creative way. They have contributed to the furthering of scientific knowledge and have a multitude of career paths open to them.

Within academia, the transition from young researcher to independent group leader is a difficult process, and the number of available group leader positions is very limited compared to the number of excellent postdocs (van der Weijden, Teelken, de Boer, & Drost, 2016). Postdocs thus face several challenges including dealing with extremely competitive standards for application to independent positions and establishing a coherent network to support them in this stage of their career (José Ribeiro et al., 2019). For these reasons, postdoc periods have tended to become longer (Matthews, Calhoun, Lo, & Ho, 2011). As employers, we want to assist our postdocs during their transition and ensure that they build an outstanding track record and reliable network.

Outside academia, postdocs are sought after as a highly educated, proactive and resilient workforce. Nevertheless, the scope of options that postdocs themselves see for their career is often quite narrow (usually reduced to “industry research”). At the same time, potential employers from other fields can be hesitant to hire such highly specialised experts. Common objections are that academic postdocs might not adjust well to the more formal culture of a company and do not have knowledge about Good Manufacturing Practice (GMP) or other relevant processes. In addition, career support by supervisors or principal investigators often tends to focus on career development in academia and might even convey the idea that leaving academia would somehow be a career failure. This discourages postdocs from maximising valuable transferable skills beyond their postdoctoral assignment (Boon, Kahmen, Maes, & Waaijer, 2018). Such skills include, but are not limited to, project management, communication skills, funding acquisition, leadership, and people management (Ålund et al., 2020; National Postdoctoral Association).

The challenge here is to enhance postdocs’ awareness of and employability to diverse career paths, as well as supporting them in their decision for the career option that best suits them, both professional and personally.

As a society, we have invested valuable resources into qualifying young scientists to the highest possible level. It is therefore in society’s best interest to ensure that these postdocs are well prepared to earn their place as future professionals within and outside of academia. While scientific expertise must remain the cornerstone of postdocs’ professional development, they should be able to choose between different career paths, which may lead them to different research and non-research positions (see LERU, 2018²). When supporting postdocs in their career development, research institutions should focus on helping with the difficult transition to becoming a group leader in academic research, as well as providing guidance on diverse career options.

As an alliance of research institutes advocating for excellent research in Europe, the 15 EU-LIFE centres have produced two recommendation papers to address the challenges for postdocs in the field of life sciences in Europe and the necessary support measures:

- Best Practices for Postdoc Career Support in the Life Sciences - A Hands-On Guide for Research Institutions (this paper)
- Policy brief: Providing Career Support to Postdocs – Inspirations and Recommendations from the EU-LIFE Institutes

RECOMMENDATIONS

1. Installing a point of contact for postdocs at each institute

A point of contact can be a dedicated Postdoc Support Office with a coordinator for postdoc training or a counsellor for advice on career development, conflicts and well-being.

This office or counsellor should consult with other staff members:

- Group leaders
- Postdocs or Postdoc Representatives
- Science managers from relevant areas (staff development, HR, tech transfer offices, funding affairs, communication, etc.)

This enhances the backing of postdoc support by all necessary groups at the institute. In some institutes, representatives of the mentioned staff groups form a Postdoc Committee that advises the institute's leadership on postdoc-related topics.

The development of postdoc community groups should be supported, so that postdocs can organise their own events and work together with their institute's point of contact (e.g., give input on training and career support needs).

There should be a coordinated welcoming process in place for new postdocs, providing them with information on training and support offers, as well as getting them in touch with relevant contacts at the institute.

2. Promoting early independence for promising postdoctoral researchers

To help postdocs with a promising track record to develop towards early independence, the following options can be considered:

- Enabling and supporting grant applications of postdocs as project leaders, responsible for recruitment of staff and other project-related expenses
- A dedicated development track for postdocs with their own project funding in senior research groups, including the possibility to publish as last author
- Higher salary (or salary supplement), special title and enhanced visibility for postdocs with own project funding (e.g., "Senior Scientist" with own website representation)
- Option to apply for a junior group leader position (both postdocs recruited internally and externally) when significant funding for own salary and project are obtained externally, and if project fits the overall research portfolio of the institute. This measure should be carefully exercised to ensure transparent and fair process for recruitment.
- Stimulate postdocs to diversify their research and look for a lab other than their PhD lab to carry out postdoctoral research.

Incentives for postdoc grant applications could be a financial bonus to the postdoc in case of success, possibly provided from the grant overheads.

In institutional evaluations, senior group leaders should be positively evaluated on facilitating and encouraging their postdocs to develop towards independency, for example through giving the postdocs more project management and leadership responsibility. This would also allow the postdocs to provide sufficient scientific input to a project for a last authorship publication. Last authorship of postdocs should not be prevented by institutional rules and the senior group

leaders should obtain extra credit if they allow for postdocs to publish as last author in their group. Such a publication should also fully count for their own personal publication record.

Personal Fellowships:

A postdoc who successfully obtained a competitive fellowship for their own position which does not amount to a net pay equal to other postdocs at the institute should receive a complementary payment ("topping-up").

A prestigious personal fellowship can constitute a step towards independence, but it is not necessarily considered equally effective to this end as project funding (staff, consumables).

Aspects to be considered for obtaining early independence:

- Own line of research with a clear and innovative plan for the next few years
- Potential impact on the field
- External funding or potential to obtain external funding
- Publications
- Student supervision
- Mentoring experience
- Collaborations
- Interdisciplinarity
- Speaker invitations
- Teaching
- Technology developments or potential for technology development and transfer
- Already existing level of scientific independence
- Awards and other markers of esteem
- Ethics (GSP, animal research ethics, collaboration ethics, open science, research data management, etc.)
- Time after PhD (5-8 yrs, excluding parental leave)

Support for grant writing should be available, either by funding experts or by an internal peer review group.

3. Providing appropriate contract lengths and working conditions

Postdocs are usually employed on fixed-term contracts. The contract length should reflect the duration of the project and the associated qualification aims. Initial contracts should not be shorter than two years and prolongations should not be shorter than six months. Options for obtaining a permanent contract, if available, should be transparently communicated and follow a consistent and fair selection process. Fellowship holders should be treated equally to contract holders in terms of access to infrastructure and support.

The research institution should offer an appropriate work environment, for example access to scientific infrastructure and opportunities for postdocs to present and discuss their research. There should be clear processes in place to prevent or handle discrimination, harassment or conflicts. Intercultural awareness should be fostered and the primary institute language should be English. Support structures for postdocs with child care or elder care duties should be provided, as well as counselling offers for mental wellbeing.

For example:

- Help with finding child care
- Flexible working hours
- Holding meetings during the core working hours
- Psychosocial counselling by external experts

4. Offering training for postdocs regarding key skills (suggestions below)

Training at the postdoctoral level should focus on providing tools for problem solving and enabling personal and professional development and empowerment. In addition, postdocs should be challenged and supported to approach new ideas, find their own way and grow through accomplishment.

Course suggestions:

- Advanced scientific courses (e.g., statistics, bioinformatics, data analysis and interpretation)
- Scientific Writing (grants, publications)
- Peer review
- Leadership
- Lab Management
- Negotiation
- CV Writing
- Time and Project Management
- How to make an individual career development plan
- Communication and collaboration, effective networking
- Teaching and mentoring (tools and methods, learning mechanisms)
- Sex, gender and diversity dimensions in research
- Intercultural competence
- Ethics, integrity and workplace professionalism
- Open science and research data management

Seminar suggestions:

- Career Talks by alumni, PIs or speakers from different career paths with opportunity to meet informally with postdocs (e.g., lunch or dinner)
- Invitation of external postdocs to present their research in the framework of a seminar series
- Integration of internal postdocs into the institute's seminar series

5. Providing career support for postdocs

Career support suggestions:

- Online resources, like an Individual development plan (IDP) or application guidance
- Annual career discussion with PI
- Evaluation/appraisal system for assessing professional performance on a regular basis
- Mentoring programme, e.g. standard 2nd personal mentor (external, possibly from different career area)
- Chalk-talks and mock interviews for application training
- Access to PI candidate recruitment process (e.g., sitting in on presentations and subsequent jury discussions)
- Grant writing support by funding experts or internal peer review group
- Successful grant application repository
- Postdoc funding opportunities overview (online)
- Career guidance sessions
- Peer-mentoring groups (e.g., LeanIn)

- Time-out scheme funding postdocs to gather preliminary data, apply for funding or do an internship outside of academia

Networking support suggestions:

- Postdoc Symposium (Postdocs presenting their research to each other) or Postdoc Retreat
- Networking events together with PhD students and/or PIs
- Providing postdoc organisations with a budget to organise their own events
- Outreach events connecting postdocs to potential employers, like company visits
- Joint event with alumni

6. Other support measures

Communication channels:

- E-mail distribution list
- Contact via Postdoc Representatives
- Social media groups, instant messaging groups
- Newsletter
- Information on intranet
- Announcement posters (also virtual)

Welcome Service suggestions:

- Support for postdocs arriving from abroad (visa, bureaucracy, etc.)
- Orientation for all postdocs arriving at the institute (Who to ask for what and where to find contacts; also possible: buddy system for first 3 months)
- Postdoc Handbook or other on-boarding guidance

Recruitment suggestions:

- Comparable procedure for all postdoc hires at the institute (recruitment guideline)
- Selection carried out by more than one PI (e.g., two PIs in addition to the hiring PI, with the hiring PI making the final decision)
- Joint postdoc positions with industry, research management and/or research policy could be an option to be explored

GENERAL OBSERVATIONS & CONCLUSION

How can we support postdocs?

Postdocs have long been the "forgotten career stage" between PhD candidates in structured graduate programs and independent group leaders.

In the academic system, they are often considered either not yet fully qualified ("postdoctoral student" is a very telling term) and thus merely an extension of graduate researchers. Or, in the other extreme, they are considered to be completely self-sufficient, not needing support or training, basically just working to publish until their fixed-term contracts run out. At which point they are then expected to "have made it" to a group leader position, mainly by the sheer amount of publications in high-ranking journals.

Needless to say, that both of these viewpoints are of limited use to organisations aiming to promote postdocs. We have found that **acknowledging postdocs to be specialised experts in a transient career phase within a highly competitive system** is the most helpful guide to organisational efforts to support them.

This point of view has several consequences:

- **Postdocs are experts in their field.** Hence, to succeed in their field, they need opportunities to become independent in their scientific pursuit and to develop their own research profile. An organisation can support them obtaining independent funding, presenting their research in international conferences or finance publications as last or corresponding author.
- **Postdocs are highly specialised.** That means, career paths outside academic research will not necessarily be obvious to them. An organisation can provide information on the full breadth of career perspectives as well as additional qualifications towards a career pivot.
- **Postdocs are well-connected within their own, highly-specialized fields.** However, to succeed within and outside academia, a broader network is indispensable. An organisation can provide networking opportunities with other postdocs and faculty, as well as with mentors or potential employers from the private sector.
- **Postdocs face high levels of competition within the academic job market.** In conjunction with short-term contracts and a stage of life that is often connected to family building, this can lead to high levels of stress and anxiety in young researchers. Organisations can help by committing to contract lengths of several years at a time, by providing flexible working conditions, help with finding child care and providing psychosocial counselling, as well as career planning and application support.

There are many ways for organisations to support and promote their postdocs in ways that take into account their unique and often vulnerable position in the academic system. It is also important to underline that the postdocs also need to take responsibilities for their own growth, seek out opportunities for career development and propose further initiatives.

The present paper is a collection of best practice examples and suggestions from life science research institutes in the EU-LIFE alliance. It is clear that every institute will need to find its own ways to support postdocs within its own national framework, but the strength of an EU-wide approach is to identify practices that are promising in most European research systems and possibly beyond. There are many ways for organisations to support and promote their postdocs in ways that take into account their unique and often vulnerable position in the academic system. We would like to encourage each reader to adapt as many of our suggestions as possible within their own institute and to share their experiences with us, so that the EU postdoc support community can keep growing.

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[For more information](#)

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