



POSTDOC PROGRAM GUIDELINES

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Introduction

This document addresses the general principles and policies of the Jet Propulsion Laboratory concerning its postdoctoral community and recommends best practices.

Please note that some website links in this document are not accessible to an external, unlimited audience. For questions, please contact postdocs@jpl.nasa.gov.

Postdocs at JPL

A postdoc is an individual holding a doctoral degree who is engaged in a temporary and defined period of mentored research and or technological training for the purpose of acquiring the professional skills and experience needed to be an independent researcher.

Over the years NASA has sponsored postdoctoral programs that have provided valuable research support to the Centers and JPL, creating opportunities for early career scientists and technologists to work in the NASA environment, and has supported the nation's need to train researchers. These programs have also provided a source of new personnel as a fraction of the postdocs have found a regular position within the NASA family once they finished their tenures. Many more have found a home in academia or research centers, and have carried the experience and the network from their postdoctoral years to their new organizations, acting as ambassadors for NASA and JPL.

JPL has benefited enormously from all aspects of NASA's postdoctoral program, and expects to continue to benefit in the future. JPL has placed the responsibility of overseeing the available postdoctoral programs within the Office of Research and Development, to ensure an active interface with the academic community and a robust connection with the internal research community and its line management, to make sure that the environment for postdocs at JPL provides all the necessary ingredients for a positive experience in training to be a researcher.

The work performed by postdocs supports NASA's strategic goals and the nation's advancements in science and technology. JPL's postdoctoral program has the broad goal of attracting the brightest new graduates by offering opportunities that increase the return from NASA's missions, or lay the foundation for the next generation missions by advancing our scientific knowledge and or develop needed technology.

Postdoc Resources

Postdocs at JPL benefit from a broad range of resources: a robust scientific and engineering community, peer and manager mentoring, dedicated seminar series and annual poster session, professional development courses, opportunities to mentor students, and connection to the Caltech Postdoc Association. Postdocs should take advantage of these resources as well as reach out to their organization's business support team for daily administrative issues, their group supervisor and other line management for additional mentoring, and the Postdoc Office for issues regarding their postdoctoral appointment and overall experience.

Overview of Postdoctoral Programs

Postdocs in any programs listed below are awarded on a yearly basis but typically hold the assignment for two years. Any assignment in a program or in a combination of programs may not exceed three years at JPL. Candidates must have earned their PhDs within the previous five years to be eligible to apply to be a postdoc.

Please refer to the [postdoc website](#) for additional eligibility information.

NASA Postdoctoral Program (NPP)

Postdocs in this program are award recipients of the NASA Postdoctoral Program Fellowship, in response to opportunities posted by JPL advisors. NPP Fellows are JPL Affiliates. To become NPP advisors, JPL researchers must demonstrate a sustained trail of successful proposals and publications (refer to the [advisor page](#) for more information) and be approved by their managers and the Office of Research and Development. Approved advisors should refer potential candidates to the [NPP site](#) to apply. The NPP is largely funded by NASA's Science Mission Directorate directly through award allocations to the Centers and JPL. Beyond the allocated awards, advisors may choose to fund their NPP candidate using their own research funds. No internal JPL funds can be used. Advisors should consult the Postdoc Office for more information.

JPL Postdoctoral Program

Postdocs in this program are temporary employees of JPL and are funded by the advisor's research funds through yearly appointments. NASA, non-NASA, and JPL internal funds may be used to support a JPL postdoc's appointment to work on technology or on a specific scientific task. Postdocs are funded by their formal advisors, however over time collaborations might develop with other researchers (typically it happens in engineering/technology fields), who might partially support the postdocs financially, provided there is agreement by all parties, including management.

NASA Hubble Fellowship Program (NHFP)

This program is reserved for astrophysics candidates. NHFP fellows can select JPL as their host institution. Host institutions may not receive more than two NHFP fellows per year. Postdoctoral fellows in this program are funded by NASA. Refer to the [NHFP website](#) for more information.

Caltech Postdoctoral Scholar Program

Campus postdocs who regularly visit JPL may spend no more than twice a week, or 40% of their time, physically at JPL. They must inform Caltech's Postdoctoral Scholar Services in the Human Resources Department of the collaborative arrangement, to ensure proper documentation is in place. (Until recently, this program was used to hire postdocs located solely at JPL, but it has been discontinued).

JIFRESSE

Postdocs in the Joint Institute for Regional Earth System Science & Engineering ([JIFRESSE](#)) are UCLA employees and may be assigned to work at JPL full-time. JIFRESSE postdocs who reside at JPL are JPL Affiliates. Appointments through this program with full-time residence at JPL should reflect collaborative research between UCLA and JPL where there is a documented need for postdocs to be physically at JPL all the time. Funding is provided by a variety of sources and requires JPL advisors to be affiliated with JIFRESSE.

Visiting Postdoctoral Program

Individuals who are recipients of a non-NASA postdoctoral fellowship or have access to postdoctoral funding from a non-NASA institution, university, or foreign government, may be hosted at JPL and work in collaboration with researchers in their field of study through the Visiting Postdoctoral Program. Individuals interested in this program must have an established relationship with JPL researchers in order to be hosted.

Recruiting

JPL attracts many talented postdoctoral researchers. We require advisors to advertise postdoc opportunities and to seek out qualified candidates through an open, inclusive search, to invite qualified candidates for an interview with the advisor, team members, and line management. [Please visit the postdoc website for additional guidance.](#)

Role of Advisors

In general, JPL personnel who hold a PhD degree and are actively engaged in research, as evidenced by peer-reviewed publications and competitively selected research awards, may be postdoc advisors if they have funds for innovative research opportunities in support of NASA and JPL goals.

In working with postdocs, advisors should understand that they have specific responsibilities as postdoc advisors and that postdocs are not merely supporting advisors with task deliverables. For example, a postdoc should not be hired solely because they cost less than a regular employee. Instead, the advisor must give the postdoc some latitude in the approach and timeline of the project and encourage exploration and critical thinking. Specifically, the advisor shall mentor the postdoc to identify productive research paths leading to peer-reviewed publications. When appropriate, the advisor should encourage them to interact with the community by providing a travel budget to attend relevant conferences and meetings. (Note: NPP and NHFP provide travel funds). In time, postdocs should be given the flexibility to exercise their own initiative in areas related to their advisor's research, progressing toward an independent research program as a key to developing their career.

Advisors who wish to hire a postdoc should have already discussed the overall research plan with their line management and secured availability of space and lab resources. Once that is secured, advisors must prepare an application to the Office of Research and Development,

broadly describing their research need, a plan with objectives and expected accomplishments, funding vehicles, and logistical considerations. Additionally, advisors must provide evidence that they are active, successful independent researchers and demonstrate their ability and experience as mentors. The application must be reviewed and concurred by their line management before submission to the Office of Research and Development.

Role of Management

A prospective advisor's line management must agree on the advisor request to hire a postdoc and review the application to provide confirmation of the accuracy of the information in the request, and of the ability of the individual to advise a postdoc. Additionally, management should make sure that the resources necessary for a productive research experience are available, and that the research has the right priority to merit allocation of resources such as space and equipment. Management is required to approve NPP advisors, thereby acknowledging that these individuals are performing research of strategic value and have the temperament to properly mentor postdocs.

Role of the Office of Research and Development

After obtaining management concurrence, advisors must submit all applications to hire postdocs to the Office of Research and Development via the Postdoc Office. To approve the application, the Office of Research and Development must determine that the research project is strategically relevant to JPL, the advisor has the necessary reputation in the research community, and the advisor is capable of mentoring a postdoc. Following approval, advisors can prepare announcements of opportunity (AO) to start the recruiting process.

Preparing the Announcements of Opportunity

Advisors should seek candidates who are recent graduates and ensure that the research project will lead to peer-reviewed publications and presentations. Furthermore, advisors should ensure that they have secured funds for the duration of the intended appointment. Announcements of opportunities should be reviewed for unconscious bias to ensure a diverse and inclusive pool of applicants. Opportunities should be submitted to the [AO page](#) of the postdoc website. Please refer to the [application requirements](#) on the postdoc website.

Interviewing Candidates

Note: the following section applies primarily to the JPL Postdoctoral Program

Role of the Postdoc Office

The Postdoc Office manages the postdoc appointment life cycle. Advisors interested in hiring or hosting a postdoc must contact the Postdoc Office after consulting their line management and before any recruiting efforts begin. The Postdoc Office will provide guidance and the appropriate steps for each respective program. Please refer to the [Hiring and Renewing Information](#) on the postdoc website.

Role of Advisor During Recruiting

The advisor should solicit applications broadly, and ensure a diverse and inclusive pool of applicants. The advisors can organize for postdoc candidates to visit JPL and meet with other members of his/her group, and see the available laboratory facilities and work environment. The advisor can arrange for a seminar with the relevant group of people, including management and or Campus colleagues, who can interact professionally with the candidate through a Q&A session. The advisor and the candidate should have frank discussions of their expectations for the postdoctoral appointment. The advisor should be aware of implicit bias in the evaluation process and strive to minimize it as much as possible. JPL Postdoc on-site interviews should be arranged through the Postdoc Office.

Role of Line Management

When appropriate, the advisor's line management can meet with the candidates during their interview at JPL and assess their overall potential suitability to work in the proposed research group or laboratory, and give feedback to the advisor. Although postdocs are expected to be at JPL only temporarily, they represent an investment by an organization, and not solely by an individual advisor. Making sure that the best candidate is hired is in everyone's best interest. Management should be aware of implicit bias in the evaluation process and strive to minimize it as much as possible.

Guiding Principles to Help Postdocs Succeed

JPL values the contributions of its postdocs and is committed to provide a successful postdoc experience. The following is a high-level description of the expectations and requirements to ensure that the experience is indeed successful.

What Postdocs Should Expect

Postdocs at JPL should expect a supportive and respectful environment, where they can grow professionally by working alongside the JPL community on cutting-edge research in Earth Science, Planetary Science, Astrophysics, and in engineering and technology development. Although postdocs have one formal advisor with whom they develop a plan of work, they are encouraged to engage with all relevant colleagues inside and outside the advisor's research group for advice, including the Caltech Campus when appropriate.

Postdocs are encouraged to attend JPL and Caltech Campus seminars and workshops, and take professional development classes on topics such as posters and manuscripts preparation, proposal writing, improving presentation skills and other career-focused subjects.

Postdocs are encouraged to discuss their ideas with their advisor and proactively contribute to the approach for analysis and problem solving, and seek frequent feedback from their advisor on their research plan and work products. Discussions should include identifying a clear path to obtaining publishable research.

Postdocs should work together with their advisors and or collaborators on preparing presentation materials and manuscripts, based on agreed upon roles (and authorship order) in the research being reported.

In some cases, postdocs might be able to contribute original materials used in proposals submitted to NASA or JPL. In fact, NASA recognizes significant intellectual contributions by postdocs with the role of Science principal investigator, when warranted. Advisors should acknowledge such contributions and explore the role of the postdoc in a given proposal through an open discussion amongst the stakeholders (advisor, postdoc, management). However, it should be understood that the primary scope of the postdoc's time at JPL is performing research on an agreed upon research project, and not extensive proposal writing.

Authorship

Postdocs should strive to attain the best scholarship. They should be treated no differently from other members of a research team in terms of requirements for authorship of papers. For a more in depth discussion of ethics in research please refer to [Guidelines for Ethics in Research](#).

Role of Advisor

The advisor is the primary agent responsible to create a positive and encouraging environment for the postdoc and ensure that the postdoc is successful in starting their career as an independent researcher and that the research leads to publications in the open literature. The advisor should help empower the postdoc to seek immediate advice and help for any problem, and enlist administrative personnel and line management as appropriate when warranted. The advisor should introduce the postdoc to their line management (group supervisor, section manager and division manager) within the first couple of weeks of the appointment start. The advisor should assign a co-advisor if they expect to be on frequent and or long-term travel or otherwise unavailable for extended periods of time.

The postdoc and the advisor should establish a written and agreed-upon research plan at the outset of the postdoc's time at JPL. It should be revisited periodically, as it may change with time to better suit the advisor's objectives and the postdoc's specific interests and skills, or because of collaborations developed along the way. In time, a postdoc should be progressing toward an independent research program as a key to seeking a more permanent research position at JPL or elsewhere. Advisors whose postdocs exhibit skills, performance and leadership qualities that are especially valuable to the Laboratory should bring them to the attention of management and inquire if there are opportunities for regular employment.

Part of this development will be the opportunity to give a seminar at JPL each year, and to participate in the annual Research Poster Day. The advisor, and possibly a suitable peer group of experts, should provide a candid feedback to the postdoc in the preparation of the JPL seminar and the poster to ensure that the postdoc masters the required communication skills needed to be successful in a research environment. These opportunities are only a minimum requirement; as part of the yearly research plan, attendance at conferences, science team meetings and suitable workshops should be agreed upon by both the advisor and the postdoc. The postdoc should have some latitude in identifying at least one such venue per year, rather

than the advisor making all the calls. Similarly, postdocs should be proactive in identifying avenues for professional growth and visibility, and discussing them with their advisors, colleagues and management.

Role of Line Management

The advisor's line management is expected to help create a positive and nurturing environment for the postdoc and ensure that the postdoc is successful in starting their career as an independent researcher and that the research leads to publications in the open literature. Part of the positive environment is access to office space suitable for convenience of interactions with the advisor and the members of the relevant research group. In case of foreign national postdocs, advisors and management should be sensitive to the restrictions required by NASA and required by the export control laws and strive to provide the individuals with the resources, information and tools that mitigate such restrictions. Management should take an active interest in the postdocs working in their organization, by periodically meeting with them, and attending their seminars and other communications. In particular, management should take an interest in identifying those postdocs whose skills, performance and leadership quality represent a valuable addition to the Laboratory's regular employees.

Management should be open to meeting with the postdocs to discuss their experience and concerns, particularly in case problems arise during the advisors' absences and also provide advice and help with issues where the advisors cannot be effective.

Role of the Office of Research and Development

The Office of Research and Development is responsible for addressing institutional requirements or changes affecting the postdoc and advisor communities. Postdocs, advisors, and their management should not hesitate to seek advice or assistance from the Office of Research and Development to help resolve such issues.

Role of the Postdoc Office

Postdocs may rely on the Postdoc Office as their institutional voice and advocate for their well-being. The Postdoc Office facilitates opportunities for professional development such as the postdoctoral seminar series, Postdoc Research Day, professional development activities, informal peer mentoring, and social interactions.

Problem Resolution

Occasionally issues arise between a postdoc and their advisor that the postdoc might feel uncomfortable discussing with the advisor and or their line management. The Ethics Office and [Ethics Hotline](#) are available for addressing/discussing issues. Additionally, postdocs who are JPL employees have access to HR and its resources, such as [AskHR](#) and the Employee Assistance Program through [LifeMatters](#). (Note: NASA postdocs may access Life Matters as of February 2022.)

Postdocs may also look to the Postdoc Office and or its manager, the Office of Research and Development, as places to talk discreetly about issues. The Office of Research and Development is outside the organization of the advisors and their line management and has the institutional role of nurturing the environment for researchers at JPL, of whom postdocs are a segment, and improving the experience of postdocs at JPL as part of their research training. Hence, postdocs should not hesitate to reach out to the Postdoc Office to begin the conversation.

Research & Personal Development Plans

Postdocs should take advantage of the resources available to them such as seminars, workshops, professional development courses, mentoring, and [volunteer for NASA review panels](#). Advisors are expected to prepare a research plan to discuss with their postdocs and to encourage their postdocs to prepare a personal development plan. Advisors and postdocs should regularly discuss the progress of the personal development plan to make sure they are on track or if any changes need to be made.

Regular discussions help assess that both parties meet the contributions' expectations, and provide a way to avoid conflicts and frustration. In cases of mismatch of expectations, the parties should work out an arrangement, perhaps with help and mediation from management/colleagues and together explore paths forward, including ending the relationship appropriately, if warranted. Consult JPL Human Resources and the Postdoc Office for guidance.

Transition Planning

The postdoctoral programs are not an automatic entry to regular employment at JPL. Postdocs are encouraged to build networks of professional contacts to ensure a good transition to employment after the postdoc experience, whether at JPL or elsewhere. The Postdoc Office is a resource that the postdocs should consider in building their network. Note that while advisors and management should encourage postdocs to apply for positions that might be available and suitable, they are by no means required to help postdocs secure a regular position at the end of the appointment. If the postdoc secures a permanent position before the end of the postdoc, the advisor and postdoc should work together on an early exit transition plan suitable to both.

Helping Build Networks

Postdocs should take the initiative to learn more about JPL by attending talks and poster sessions, conducting seminars, participating in the Postdoc Research Day, requesting the people in their network to refer them to others, and meeting with managers of organizations outside their own. Managers should support such requests as much as possible. Postdocs are encouraged to keep track of the people they talk to and keep expanding their network during the course of their tenure. It is best to start this at the onset of the appointment to maximize opportunities.

Postdocs are particularly encouraged to interact with their JPL early-career peers through the [New Researchers' Support Group \(NRSG\)](#) to help expand their network of contacts.

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Similarly, postdocs should build networks outside JPL at professional conferences and meetings, and by participating to review panels, outreach activities, job fairs, etc. Advisors are encouraged to support postdocs applying for job opportunities, and attending venues with a high potential for network building.

Exit Interview

Postdocs are expected to complete the [Exit Interview](#) form prior to their departure from the program. They are also encouraged to meet with the Postdoc Office for an in-person interview to share their feedback. Postdoc feedback is important to help JPL improve upon its services and overall management of the programs. NPP and NHFP programs require additional paperwork prior to departure.