



How to apply for postdoctoral positions in Astronomy?

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Our career paths so far...

Mary Loli



- PhD: Universidad Nacional Autónoma de México [2011 - 2015]
- ↓
- CONACyT fellowship: Instituto de Astrofísica de Andalucía, Spain (2016-2018)
- ↓
- Post-doc: Center for Theoretical Physics, Poland [2018- till now]

Dhanya



- PhD: Max-Planck Institute for Radio Astronomy, Germany [2014 - 2018]
- ↓
- Post-doc: Joint Institute for VLBI in Europe, Netherlands [2019 - till now]

Outline of this talk



- Careers in astronomy
- Postdoc jobs
 - Fellowships, PDRAs, timeline of applications
- Preparing job applications
 - Cover letter, CV, research interests, proposal, reference letters, interviews
- Tools

Astronomy Careers



Strengths

- An opportunity to continue your passion and you are paid to do it.
- Flexible working hours and ambience.
- Great opportunities for travel [as part of moving and attending international conferences & meetings].
- Possible to make significant scientific discoveries.
- Permanent positions in the long term [research staff, professors, technical positions, support scientists).

Weaknesses

- Instabilities in the beginning of your career (until you get a tenure-track position)- postdoc job hunt every 2-3 years and moving around.
- Payment scale is low as compared to industries.
- Extremely competitive - many very smart, hard working people seeking a limited number of positions.

Postdoc Jobs

● Fellowships

- Can independently work on the projects you like.
- Highly competitive and need to be self-motivated.

1. “Open” fellowships

e.g., ESO, VENI, Humboldt, Marie-Curie, Hubble, Einstein

- Host institutions are contacted in advance and needs their support/collaboration in the proposed project.

2. “Institutional” fellowships

e.g., Caltech Burke, Leiden (Oort), CfA Clay etc.

3. “National” fellowships

e.g., PACIFIC (Poland), RyC-JdIC (Spain)

● Post doctoral Research Associates (PDRAs)

- Research focussed on specific projects, a lot of such positions
- Work with a supervisor, well defined project leading to papers

● Teaching fellowships, Support positions

- Support activities to host institutes in teaching, technical work, observations etc.
- A part of your time is dedicated to research [50%-50% or 75%-25%]
e.g., telescope sites like IRAM, ESO (Chile), SOPHIA, SWIFT etc.

Fellowships & Timeline



- **NWO VENI** Any institute in Netherlands, 15th January 2021 pre-proposal & final proposal by 20th May 2021
- **Marie Skłodowska-Curie** EU institutes, 9th September 2021
- **Alexander von Humboldt** Any German institute, all science (accept applications from 15 March to 15 October of each year)
- **ESO Garching or Chile** 15 October 2021 (In Chile, 25% of time on support duties for ALMA)
- **Leiden Oort** fellowships ~ Oct-Nov 21
- **Cambridge Kavli** ~ October 2021
- UK **Ernest Rutherford** Fellowship [long term 5 years]
- UK - **RAS fellowships** [2021, 2024 and 2027] and the **Norman Lockyer** fellowship [2022, 2025 and 2028] every three years.
- France - **CNES** post-doctoral research grants ~ Jan 2022
- Switzerland - **Ambizione** grants - 1 Nov 2021 [4 years]
- **Einstein** fellowship. Any US institute 8 November 2021
- **Hubble**. Any US institute all science ~ 1 November 2021
- **CfA Clay** fellowship. 30th October 2021
- **Caltech Burke** fellowship ~ 15 November 2021
- **Jansky** fellowship ~ November 2021
- Canadian Institute for Theoretical Astrophysics (**CITA**) Fellowships ~ 11 November 2021
- East Asian Core Observatories Association (**EACOA**) fellowship Jul 2021

Europe positions - peak in Sept-Jan every year



Preparing job applications

Application Materials



- Cover letter
- Curriculum Vitae with publication record
- Summary of research interests [Past & present research]
- Research proposal
- Letters of reference
- Statements on teaching, educational activities, outreach etc.
- Interviews or Talks

Cover letter



- Cover letter is critical, even if they don't require it.
- Include your name, current position and contact details.
- Mention the job you are applying for (with reference number if more than one job advertisement).
- Your background/interests, why you are applying.
- How you can support their project
- Helps to mention things that don't fit in CV.
- Maximum 1-2 pages
- Only chance to articulate in your own words why you want the job and why they should hire you.

Curriculum Vitae

- Brief & concise
- Under 2 pages (without publication list)
- Highlight the relevant parts for the position

Include:

- Name, contact details, current position.
- Academic record (from PhD onwards)
- Proposals/time awarded for observations (both PI & co-PI)
- Awards, scholarships etc.
- Invited talks
- Contributed talks, posters, attended conferences
- Research experience, skills like programming, telescope facilities used/supports provided
- Teaching experience
- Outreach, Educational activities
- Journal club/colloquia/seminar organisations

- **Publication list**

- Add the list of publication with web links to papers [ADS/arXiv]
- List refereed, non-refereed, conference papers separately
- Mention which papers are *'in press'* or *'submitted'*.
- Keep your name highlighted in co-author papers.

Summary of research interests

Content

- Opportunity to show your research experience, achievements and skills
- Show you as self-motivated and passionate
- Situate your work within the larger context of your field
- Show how your work contributes to, complicates, or counters other work being done
- Accessible to non-specialists

Main body (1-2 pages)

- Past research
 - What did you find?
 - Include references to your publications
 - Implications and relevance in the field
- Current research
 - What are you trying to solve now?
 - What have you found until now?
 - Implications and relevance in the field
- Future research
 - How can the institution to which you are applying help you in that process?

Research Proposal

Main body (2-3 pages)

- Abstract:
 - Key points of your project (~200 words)
- Introduction
 - Why this research is important?
 - Current state of the topic research
- Hypothesis and objectives
 - What is the main goal? Highlight the relevance of your proposal
- Methods
 - How you will do it?, Sample, software, techniques
- Relevance
 - Which will be the impact?
- References, short format
- 1-2 relevant figures

Tips

- Accessible to non-specialists
- Get feedback from collaborators and mentors
- Highlight the relevant part of the text: key words

Reference Letter

- 2 or 3 reference letters are required
- Who can address the reference letter?
 - Supervisor/Mentor/Collaborators
 - Someone who is familiar with your work and feels positive about it
 - Someone who has time to write a letter
- Provide information to your letter writers about the position
 - Job announcement, CV, cover letter, statement of research, research project
- Ask the reference letter in advance (weeks)

Interviews/Talks



- They might want to talk about your work
- And test your knowledge of specific topics
- Format
 - Formal (fellowships):
 - 10 minutes presentation + questions
 - Diverse panel
 - Informal (PDRAs)
 - E.g. casual conversation
 - Specific questions about the research
 - Paper discussion
 - Typical interview questions

Mock interview!

- Prepare answer for the typical interview questions:
 - Why should we hire you?
 - What are your greatest strengths?
 - What do you consider to be your weaknesses?
 - What is your greatest professional achievement?
- Be ready for “tricky” questions
 - Why are you looking for a postdoc?
 - How you can contribute to the diversity of our institute?
- Get involved about the current projects in the group, read the papers of the group

Building up Networks



The community has to know your research!

- Attendance to international conference
- Give talk in different institutions
- Research visits
- Get involved in projects more than your PhD project
- Submit papers before the postdoc deadlines
- Website

Tools

- <https://jobregister.aas.org/>
- <https://euraxess.ec.europa.eu/jobs/search> (Europe)
- <https://www.usajobs.gov/> (USA)
- <https://www.jobs.ac.uk/> (UK)
- <https://www.arc.gov.au/> (Australia)
- [Ask for individual funding](#)
- [Facebook \(Postdoc and Faculty positions, AGN group\), Twitter](#)
- https://ec.europa.eu/research/mariecurieactions/actions/individual-fellowships_en (Europe)
- <https://www.astrobetter.com/wiki/Rumor+Mill>

- pip install astrojobs

```
$ astrojobs -p
=====
NEW postdoc jobs on https://jobregister.aas.org
=====
postdoc job check complete!

=====
NEW postdoc rumors
=====
||
New job listing || Any news?
postdoc rumor mill check complete!
```

- <https://github.com/pmocz/astrojobs>

Useful links:

CV, cover letter, teaching statement preparation:

- <https://hwpi.harvard.edu/files/ocs/files/gsas-cvs-and-cover-letters.pdf>
- <https://career.ucsf.edu/phds/academic-careers/academic-samples#Samples>
- <https://academicpositions.com/career-advice/how-to-write-an-outstanding-postdoc-cover-letter>
- <https://www.jobs.ac.uk/media/pdf/careers/resources/how-to-write-a-cover-letter-for-research-jobs.pdf>

General advices:

- <https://www.astrobetter.com/blog/2018/10/03/honing-your-hubble-application-repost/>
- <https://www.astronomynotes.com/careers.htm>

Thank You!
Good luck!

