Preface

- The slides that follow form the basis for the second part of an interactive seminar targeted at Ph.D. students entering their penultimate or final year of study and who are considering applying for postdoctoral positions in astrophysics.

- There are many ways to generate excellent application materials and, as such, the comments are designed to stimulate discussion/thought rather than to act simply as prescriptive instructions

Astronomical Job Applications: The Nuts & Bolts

Paul Hewett

Applications

- How to Apply
- Cover letter and CV
- Referees
- Publication List
- Research Proposals and Summary
- Targeting
- Profile Raising
- Talks, Interviews

What to apply for?

- Discuss with your Supervisor(s)
- "You don't get what you don't apply for"
- Be realistic!
- You are unlikely to get a desirable job in an area where you have little or no experience / relevant expertise
- How many positions should I apply for?

How to apply

- Essentially all submissions via an on-line-form – includes all major fellowships
- Meet the application deadline!
- A number of PDRA positions ask for a covering "letter"
  - State position for which you are applying
  - Use to promote link with department/project
- In the UK at least, the on-line application may not be very academic-position focussed!

Practicalities

- Will take some effort and time
- My sense – longer than was the case
- Given multiple applications the norm
  - – work on making your applications modular wherever possible
  - - can make "research experience" essentially standard
- "cover letter" for PDRAs now quite common. Include/explain department connection
- Use the resource in department to help

CV – What to include

- Personal details - including contact information
- Academic record from first degree onwards
- Research experience
- Telescope/computing facility awards
- Talks at major meetings - say if "invited"/review
- Data reduction and computing skills – enhance if mentioned as a requirement
- Public Understanding of Science work and anything else relevant which shows your communication skills including languages
- Any widening participation/diversity activities, EDI involvement
- Supervision/teaching experience
- Clear, easy to read - no more than two A4 pages

CV – What NOT to include

- All your GCSE and A level results
- Life saving and music certificates
- Employment history of summer jobs unless relevant to research
- Long essays on anything – they will not be read!

- University Careers Service – good booklet/advice [on-line] for CVs

Recent development: "narrative cv" with explicit questions

Not common for first fellowship/PDRA applications but becoming more so

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Science and Technology Facilities Council

IN CONFIDENCE: NARRATIVE CV AND TRACK RECORD

Please refer to the Guidance for applicants for instructions on completing your C.V. The font size & type and margins of the template must not be altered. DO NOT delete any section. Blank rows can be deleted. There is not a prescribed length for each section. The submitted document must be no longer than 4 sides of A4 in total.

Name (title, first name(s), surname):

Employment: Provide details of your employment in chronological order (most recent first)

Dates		Organisation and position held	Type of appointment e.g. permanent, fixed-term, full-time, part-time etc
From	To		

Education: Undergraduate and postgraduate studies

Dates		University/College attended	Department	Subject	Class of award
From	To				

Provide a brief description for the following:

1. How have you contributed to the generation and flow of new ideas, hypotheses, tools or knowledge?

This section is to address criterion 1 – the excellence of the research achievements of the applicant

This section is to highlight your contributions to and skills acquired from previous research, innovation or technical projects. It can include a small selection of key outputs such as data sets, software, conference presentations and innovation, research and policy publications. Recognition by invitation within your sector, organisation of workshops, conferences or other events that have benefited your research and innovation community and contributions to improving research and innovation culture. Please list your top five research outputs and say why you consider they are of particular relevance.

Competencies:

- *Have a track record of ambitious, innovative and novel research in your area which demonstrates an upward trajectory.*
- *Substantial contributions to high quality outputs appropriate to your field e.g. publications, software, hardware infrastructure, technical reports or instrumentation.*
- *Received external recognition of research excellence with high profile invitations to seminars/conferences to present your research.*
- *Received recognition through prizes and awards.*

2. How have you demonstrated your potential to lead your research field?

This section is to address criterion 2 - The potential of the individual to lead their research discipline

Examples might include: project management, involvement in collaborations/networks within your organisation and/or beyond or where you exerted strategic leadership in shaping the direction of a team, organisation, company or institution. Include the level you were involved in collaborations/networks and the number of people in groups that you have led or are leading or your role within the group. Examples might include: commitments including editing, reviewing, refereeing, boards and panels, appointments to positions of responsibility such as committee membership and corporate roles within your department, institution or organisation.

Competencies:

- Have clear plans to establish your own research profile that will enable you to become an intellectual independent research leader and, if applicable, establish your own research team
- Demonstrate potential to lead research, for example by initiating collaborations with teams in other departments either nationally or internationally, Research Organisations/or other disciplines
- Evidence of independence and initiative in obtaining funding
- Beginning to demonstrate evidence of recognition and prominent leadership positions in the community on an international scale through mechanisms appropriate to your discipline
- Show an understanding and clear plans of how to influence your research field and awareness of ways to influence the wider research agenda. For example, through experience of participation in peer review. participation in internal committees, acting as an ambassador or advocate for a research field or theme, or influencing policy, or organisation roles in research workshops.

3. How have you contributed to the wider research and innovation community?

This section is to address criterion 3 - The capability to maximise the potential of others and the ability to be, or become, a clear communicator and disseminator of knowledge

Examples might include: how you have communicated your ideas and research results, both written and verbally, knowledge exchange, engagement with industry, private/public sectors, clients, policy makers, researchers in different fields/disciplines or the broader public and other impacts across research and innovation. Mentoring or line management contributions to the success of a team or advancement of colleagues. It can include your teaching activities, workshops or summer schools in which you were involved (for graduate and undergraduate students or early career researchers).

Competencies:

- Have identified opportunities to access career development support from your host organisation or outside organisations e.g. mentoring and professional training development and relevant training courses that would underpin your future career ambitions.
- Show an ability to identify and maximise potential in others. For example, through the day to day support and development of graduate and undergraduate students or early career researchers, providing career support or by actively networking or coordinating the work of others.
- Evidence of engagement that is integral to your own research community, for example, running a journal club, hackathons. Have effective communication and interpersonal skills across the wider research community, for example presentations at conferences, workshops
- A credible plan to communicate and disseminate the impact of the research outside of the community, across different audiences, building on previous experience and track record e.g. through collaboration with private, public or third sector bodies, publications for a non-academic audience, social media or public engagement activities

4. Additional Information:

This section is an optional invitation to include any relevant additional information relating to your proposal such as career breaks, secondments. volunteering, part-time work and other relevant experience (including time spent in different sectors).

Narrative CV – UKRI seem to change every year

Current format consists of four "modules" with titles

Module 1 – Contributions to the generation of new ideas, tools, methodologies or knowledge

Module 2 – The development of others and maintenance of effective working relationships

Module 3 – Contributions to the wider research and innovation community

Module 4 – Contributions to broader research/innovation-users and audiences and towards wider societal benefit

Use to inform what you are trying to convey even with a CV in conventional format

Referees

- Ask the advice of your supervisor
- Who to choose – 2 or mostly 3 required
  - Your supervisor
  - Someone who knows your work well, e.g. postdoctoral researcher in group
  - Non-IoA collaborator
  - One of your supervisors' collaborators if they are familiar with your work
  - Head of Department or VIP – but think first
- Variety good, e.g. try and avoid all IoA

Asking Referees

- Ask in good time*, particularly the first occasion when your reference has to be written from scratch

- Supply full details of the position you are applying for [AAS Job Register link as a minimum]

- Provide a copy of/link_to your application

* Does NOT mean 24 hours!

List of Publications

- Follow a conventional style
  - Refereed publications are most important
    – list most recent first (with titles)
  - Include "in press" and submitted papers – arXiv/astro-ph but make status clear
  - "In preparation"?
  - Make contribution clear – large projects
  - If not yet publicly available, include web address [perhaps in internal project-review]
  - Conventional to keep conference proceedings and non-refereed papers separate
- Do not send/attach pdfs/copies of your publications unless asked to do so

Main Application Text

- What is required depends on whether the position is an individual fellowship or a PDRA position associated with specific individual or project

- For fellowships you will need a "research proposal" – what you plan to do in the [typically] three year period of the fellowship, all in just two or three pages

- For PDRA positions you will need a research/ skills summary – again in no more than two or three pages. Might include a section on what you will bring to the project, including plans for your ~10-33% research time [but cover letter]

Research Proposal

- For fellowships, your application will be one of many and, for very competitive positions, maybe one of ~200

- Majority of committee assessors/readers not remotely "expert" in your field

- You should ensure that the main thrust of your proposal is conveyed in the first one or two paragraphs

- More information/detail follows in remainder of allowed space

- Well-chosen figure(s)/diagram(s) can be advantageous

Research Proposal (cont.)

- Essential and a key element for success in fellowship applications

- Remember that, almost by definition, you will be working in an area that is important/high-profile

- Be realistic – good to show range of interests but remember you are applying for a two / three year position

- Why will you, or the idea proposed, produce real progress in such a competitive area?

Research Summary

- Essential for PDRA and project-linked applications. Some fellowship applications also ask for a short research summary

- As with research proposals, maximum of three pages and often only two

- Finishing your Ph.D. you won't in general have an extensive publication list and a fair fraction of your efforts likely yet to be published.

- Need to make clear your expertise in science topics, research skills, facility-proposal applications, collaboration engagement,…

Research Summary

- Probably some similarity in the science areas of the PDRA / Project positions in your applications

- Should indicate potential connection with the project or the PI's research area
  - "cover letter" text could be answer here
  - either way, make your proposal modula with one paragraph/sub-section where you can individualise for each application

- A well-chosen figure/diagram can be advantageous

Target/Research Key Departments

- Must contact individuals/department for RAS and prestige US fellowships

- Try and arrange a visit, including a talk, for prime job targets (money available for UK and EU travel). Post Covid-19 - easier with remote talks

- Good departmental contacts nearly always advantageous (use IoA people resource)

Profile Raising

- Conference talks
- Visits and talks at target institutions
- One conversation at IoA coffee can be worth an awful lot
- Giving talks at the IoA / DAMTP / Physics
- Post-Covid-19 impact in positive sense –easier to engage

Invited to give a talk?

- You may be invited to give a talk [probably remotely] as part of the selection process
  - Make it good!
  - Make it accessible
  - Research/identify your audience
  - Make sure you can finish on time
  - Practice it on your friends and staff
  - Take memory-stick for emergency!

The Interview

- Sounds obvious but... prepare for your interview!

- Find out as much as possible about the department, specialist subject areas, interview panel

- At Fellowship interviews be aware of broad background of interview committee. Be ready to explain your work to non-specialists

- Cambridge/Oxford College applications / interviews – last point is key

When to Apply

- You start with a huge advantage –
  - because of who you are (and where from)

- Overseas and self-funded students –
  - the academic year-end forms the natural break (three or four years)

- STFC students –
  - up to 3.5 years funding. Post 3.5-year funding options are not great
  - Aim at three years and you are very likely to finish in three (especially if you have a job)

When to Apply

- Negative impact of short (three year) PhD on competitiveness overrated –
  - Employers aren't dumb
  - In many cases the "I will be more competitive after four years" is not true
  - Applications at end of second year for attractive/ideal positions very sensible
- For most individuals at your career stage, what is said in references (by whom) is a very important factor

Resources

- http://www.ast.cam.ac.uk/~phewett
  - Presentations as pdfs
  - Sera Markoff 2018 presentation (more detailed version) of the material
  - Hiranya Peiris "Fellowships" – with lots of good stuff
- AAS Job Register: http://jobregister.aas.org