Pursuing a Postdoc Proactively: Finding and Vetting a Postdoctoral Position

What is a postdoc?

- **An individual holding a doctoral level degree who is engaged in a <u>temporary period</u> of <u>mentored</u> research and/or scholarly training for the purpose of <u>acquiring the professional skills</u> needed to <u>pursue a career path of his or her choosing</u>.**

  - *Definition from the National Postdoctoral Association (NPA)*

- The mentor & training environment matters immensely for the postdoc

https://www.nationalpostdoc.org/

Core Competencies of Postdoctoral Training

DISCIPLINE-SPECIFIC CONCEPTUAL KNOWLEDGE

An overall understanding of implications of work on broader field, the importance of innovation & creativity, & grasp of cultural, language & technical discipline-specific knowledge.

- Analytical approach to defining scientific questions
- Design of scientifically testable hypotheses
- Broad based & cross-disciplinary knowledge acquisition
- Interpretation & analysis of data

RESEARCH SKILL DEVELOPMENT

Ensure that postdocs are adequately equipped to carry out independent research, whether in bench- or non-bench related professions.

- Research techniques & laboratory safety
- Experimental design
- Data analysis & interpretation
- Statistical analysis
- Effective search strategies & critical evaluation of the literature
- Principles of the peer review process

COMMUNICATION SKILLS

Postdocs should master communication skills which ensure that messages are heard & understood by the appropriate audience.

- Writing (scientific publications, grants/applications, career documents)
- Speaking (presentations, interviews)
- Teaching
- Interpersonal Skills (style, negotiation, reviews/feedback, networking, conflict resolution, media management)

PROFESSIONALISM

Postdocs instill and enforce the virtues of honor, integrity, compassion, cooperation, reliability, &enhance the perception of this work in society.

- Workplace professionalism (diverse teams)
- Institutional professionalism (connecting at/across/with institutions as employees or representatives)
- Collegial professionalism (engaging as a citizen to scholarship)
- Universal professionalism

LEADERSHIP & MANAGEMENT SKILLS

Postdocs should understand which leadership styles are appropriate for any given time & situation increase performance & productivity. Leaders must also be able to competently manage projects, budgets, & staff.

- Management Skills (research staff management, project management, data & resource management, general management)
- Leadership Skills (Identifying & clarifying goals, motivating/inspiring others, serving as a role model)

RESPONSIBLE CONDUCT OF RESEARCH (RCR)

The pursuit & advancement of knowledge depend on openness, honesty, objectivity, & trust. Therefore, postdocs are responsible for upholding &engaging the ethical norms of their fields.

- Data ownership & sharing
- Publication practices & responsible authorship
- Research with human subjects or animals (where applicable)
- Identifying & mitigating research misconduct
- Conflicts of interest

YOU can join the NPA as a FREE affiliate member through an organizational membership.

SEE NPA Organizational Members List

**Use your organizational email to sign-up**

NPA resources include:

- A Postdoc's Guide to the Postdoc Timeline
- A Postdoc's Guide to Career Development
- Guide to Using an Individual Development Plan
- A Postdoc's Guide to Mentorship
- Webinar Archives (on a range of career topics including Smart Skills; my Postdoc topics)
- And More!

https://www.nationalpostdoc.org/page/resources

Most Postdocs are obtained via networking

Distribution of NC State Postdoc Job Postings, June 2018- July 2021

External
43.3%

Internal
56.7%
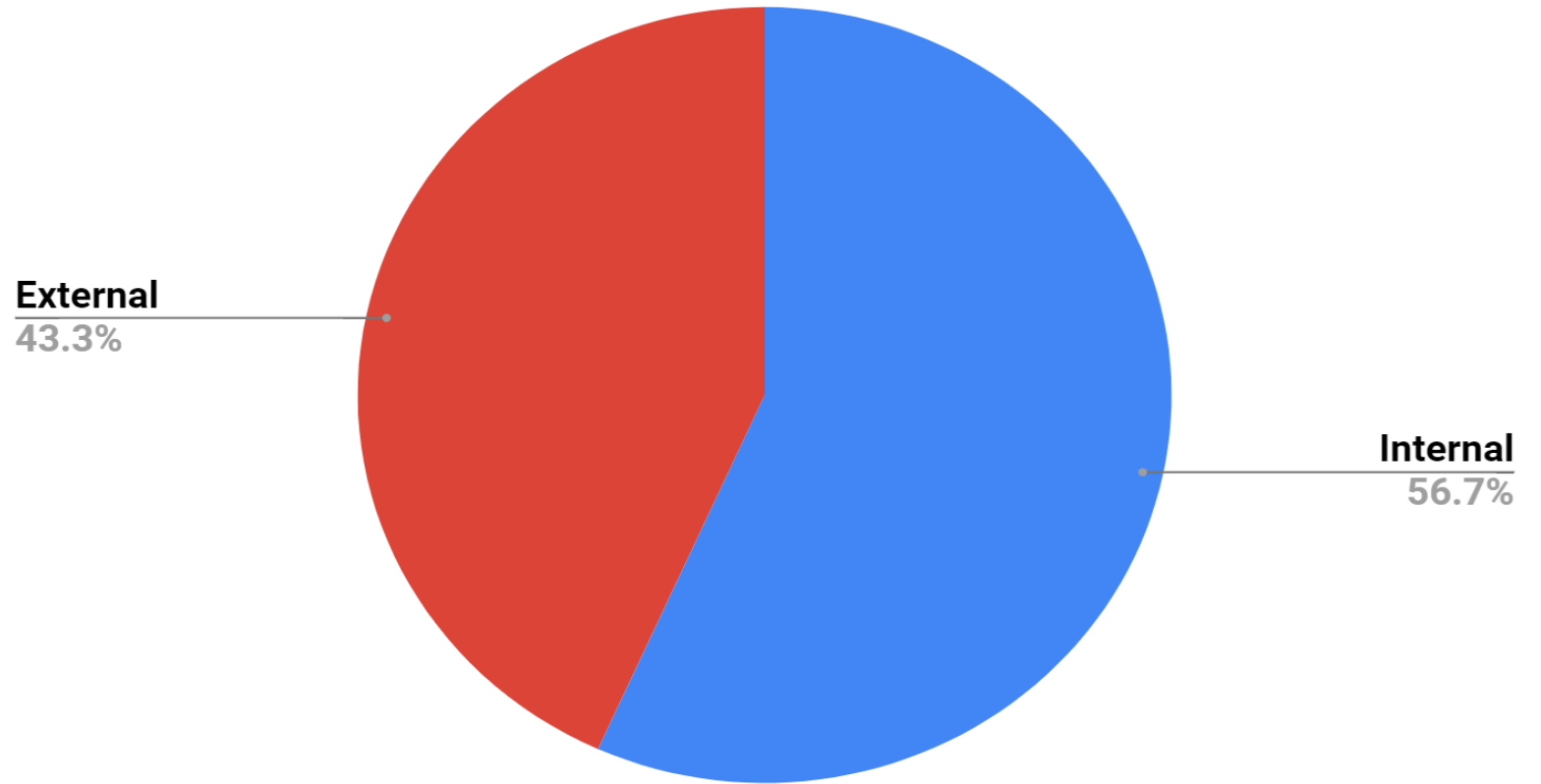
The majority of Virginia Tech postdoc positions are hired via a search exemption.

- Doing science you are interested in
- Working with a technique or process you are interested in learning
- Have funding for you for multiple years
- Current trainees say good things about the environment
- Postdoc benefits and resources at the institution meet your needs

Think: How can you leverage working with this mentor or in this lab/group to grow and develop as a professional?

Check on the PI's grants via funding databases

National Institutions of Health (NIH Reporter)

National Science Foundation Award Search

US Department of Agriculture CRIS

- Recent National Institute of Food & Agriculture (NIFA) Awards

US Department of Energy Portfolio Analysis System

US Department of Defense Grant Awards

NASA Grant Status Form

National Endowment for the Humanities

For graduate students and/or postdocs in the group you are considering:

- How have you found the environment here? Institutional, Departmental, research group?
- What should I know about how Dr. X interacts with his/her postdocs?

For former graduate students and/or postdocs in the group:

- How was Dr. X as a mentor?
- Did they assist and support you in your career transition?

For the PI/faculty lead:

- How long do you anticipate being able to support this postdoctoral position financially (1 year? 2 years?)?
- Are you supportive of your postdocs applying for independent funding (fellowships, transition awards, etc...)?
- What is your management & mentoring style?
- What career paths have some of your past postdocs pursued?
- What resources are available in the department, college, or university to support me in my career & professional development?

Minimum postdoc salaries can range from $47,000 to $70,000
- Many medical schools and biomedically-focused programs try to benchmark to the NIH's NRSA Postdoc Stipend Level: $54,840 for FY22

Postdoc Benefits by Institution Type (Public, Private):
- **60% of public and 42% of private institutions provided matching retirement in 2019**

% of institutions offering postdocs

	Paid Maternity	Unpaid Maternity	Paid Paternity Leave	Unpaid Paternity Leave	Adoption Assistance	On-site Child Care	Subsidized Child Care	Tuition Assistance	Transportation Assistance	
	64	76	56	60	20	56	20	40	20	Public
	84	68	84	63	16	53	16	58	42	Private
	50	50	50	50	83	17	33	50	67	Other

Data from NPA's Institutional Policy Report

Create a training & career plan - Individual Development Plan (IDP)

An IDP is a dynamic self-evaluation and career exploration tool that can be used for setting goals for research projects, skills development, and career planning. It is your private written list of objectives mapped to a timeline. https://grad.berkeley.edu/idp/

An IDP or training plan is now required for NSF grants supporting postdocs and in progress reports submitted via RPPR to NIH, respectively.

This plan needs to be both focused on your current skill development AND help prepare you for a future career of your choosing: academic or otherwise.

You should have professional development & career development goals clearly outlined in the plan.

Postdoc Academy: Great Online Program to Help in the Postdoc Transition & Planning for Your Career

- *Succeeding as a Postdoc*
  - This course helps develop strategies to successfully navigate postdoc life, from orientation to next career step

- *Building Skills for a Successful Career*
  - This course provides foundational skills to help postdocs find success in their chosen career path.

www.postdocacademy.org/explore/

Additional Readings & Resources

- **IDP Templates**

NC State OPA IDP

- go.ncsu.edu/ncsu-opa-idp-form

Stanford Biosciences IDPs
(for Year 1, 2, 3-5 PhDs/postdocs)

- biosciences.stanford.edu/current-students/idp/forms/

Individual Development Plans can also be built in ImaginePhD, myIDP, & ChemIDP

- Guide to Postdocs

    (from former VT TBMH Ph.D. student, Ubadah Sabbagh)