

Fellowship Application

SURVIVAL TIPS



**To Make the Process Less Painful
Than it Has To Be**

Paulina Krzyszczuk & Alvin Chen

It may seem
overwhelming,
especially with
classes and
experiments, so
your first question
may be...



**WHY
BOTHER?**

- 
- Fellowship stipends typically range from **\$25,000- \$35,000/yr**
 - Some up to **5 years!**
 - They can include **conference travel funds** as well!

- They also don't look too shabby as a line on your CV

CURRICULUM VITAE
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CURRENT ADDRESS
 280 River Rd Apt 119B
 Piscataway, NJ 08854

PERMANENT ADDRESS
 22 Locust Ln
 Farmington, CT 06032

CITIZENSHIP
 United States of America

EDUCATION

UNDERGRADUATE
 Lehigh University, Bethlehem, PA
 BS, Bioengineering, May 2012
 GPA: 3.72

GRADUATE
 Rutgers University, Piscataway, NJ
 PhD, Biomedical Engineering, Expected: 2018
 GPA: 4.0

RESEARCH EXPERIENCE

Graduate:
 Evaluation of Polymerized Hemoglobin as a Method to Deliver Oxygen and Promote an Anti-inflammatory Environment in Chronic Wounds, Dr. Francois Berthiaume, Dr. Andre Palmer, Dr. Martin Yarmush, January 2015-Present

Development of a Growth Factor Containing Hydrogel with Wound Healing Properties, Dr. Ronke Olatosi, January 2013-December 2014

Undergraduate:
 Biological Characterization of Tailored Amorphous Multi-Porous (TAMP) Scaffolds for Tissue Regeneration, Dr. Matthias Falk, Lehigh University, June 2010-May 2012

Exploring Biochemical and Mechanical Regulation of Cell Motility with Biosensors and Modeling, Dr. Charles Wolgemuth and Dr. Yi Wu, UCONN Health Center, June 2011-August 2011

Internships: Evaluating the Effect of Compression Load on Strength of Collagen Spindle Cells, LifeSciences, May 2013-August 2013


HONORS AND AWARDS

Biotechnology Training Fellowship, September 2012-May 2013
 Graduate Fellowship, September 2015-Present
 Poster at Innovations in Dermatology, 2015

TEACHING EXPERIENCE

Rutgers University, Introduction to Biomedical Engineering, Spring 2015
 Rutgers University, Introduction to Biomedical Engineering, Teaching Assistant, Fall 2014

Publications:
 Mechanosensing can result from adhesion
 ... L53-L55



- It's a relief to secure long-term funding

“Grant-writing is a form of thinking”

Dr. Martin Yarmush

Fringe Benefits

- Flesh out your project/proposal!
- Practice writing!
- Gain a deeper appreciation for what professors are actually doing when they say they are “grant-writing”
- Learn how to “brag about yourself”, which **you will need** in your future career search!



**When should I start the application
process?**

NOW!



**I'm talking to YOU,
Procrastinators!**

How do I start the application process?

1) Find a fellowship that you are eligible for

- MAKE SURE YOU ARE ELIGIBLE!
 - Year in grad school (Early Career/All But Dissertation)
 - Diversity Fellowships
 - Topic Specific
- Read the application package and understand the submission process!

Predocctoral STEM Fellowships

- National Science Foundation GRF
- National Defense Science & Eng. Fellowship
- Hertz Foundation Fellowship
- National GEM Consortium Fellowship
- Ford Foundation Fellowships
- Paul and Daisy Soros Fellowship

Early Graduate Studies
(Yrs 1-2)

Post-Qualifier Research
(Yrs 3-4)

All But Dissertation
(Yrs 5+)

- Rutgers Bevier Fellowship
- IBM Fellowship
- Ford Fellowship
- American Association of University Women Fellowships
- PEO Scholarship

- NJ Department of Health Fellowships
 - *(Spinal Cord Injury, Brain Injury, and Cancer Research)*
- National Institutes of Health F31
- National Physical Science Consortium Fellowships
- American Heart Fellowship

- NIH F31 Diversity
- UNCF/Merck GRSF
- HHMI Gilliam Fellowships
- Neuroscience Scholars Program

■ General Fellowships

■ Diversity Fellowships

Then What?

2) Break out your calendar!

- Mark the deadline
- Have your final draft ready several days before the final deadline



Deadlines

- **DOD SMART**—Dec 1, 2016
 - **NSF GRFP**—Oct 24-28 (depends on research field)
 - **Ford Fellowship**—Nov 17 (Pre-doctoral)
 - **Paul & Daisy Soros Fellowship for New Americans**—Nov 1
 - **NIH F31**—April 8, August 8, December 8
 - **Gilliam Fellowships for Advanced Study**—February 2, 2017
 - **Ford Fellowship**— November 10 (dissertation)
 - **PEO Scholarship**—November 20
 - **Bevier Scholarship (Rutgers)**—February
 - **NJ Commission on Cancer Research**—October 21, 2016
 - **NJ Commission on Brain Injury Research**—October 5, 2016
 - **American Foundation for Pharmaceutical Education**—
December
 - **Pharmaceutical Research and Manufacturers of America (PhRMA) Fellowship**—September 1 or February 1
(depending on subfield)
-
- Years 1-2
- Years 2-3
- Years 3-5
- Topic Specific

Typical Application Components

- Personal Statement
 - Why do you love science?
 - Past research experiences
- Research Plan
 - Overall goals and hypothesis
 - Details of the proposed research
 - Preliminary Results
- Reference Letters
- Supplementary Documents

Defining Your Research Plan

Create a one-paged outline (called your Specific Aims)

- **Problem and Significance (Why do I care?)**
 - What is the scientific or health problem?
 - What is the gap in current knowledge/methods/tools?
 - Why is this a critical gap to fill?
 - What is the rationale behind your approach?

- **Central Hypothesis**
 - Specific question you propose to ask
(not a general examination of a topic)

- **Key Research Objectives (2-3)**
 - Each objective should test the central hypothesis
 - Each objective should result in a measurable outcome

Three C's

■ **Completeness**

- No missing sections!
- Pay attention to details!

■ **Clarity**

- Audience: smart scientists, but may not be in your sub-field
- Minimize jargon, use active voice, format appropriately
- Make use of figures and graphics
- Write many drafts, and use outside readers

■ **Coherence**

- Tie your entire application around some central points
- Hammer in your main strength/passion via repetition
- Application should be a portrait of YOU, not the project

Applying is a Team Effort!

- Set up meetings and request items from others early!
 - With your advisor/committee members
 - Develop an application strategy
 - Past, related applications
 - Reference letters
 - Don't forget your past connections!
 - Grants specialists
 - Department Specific
 - <https://orsp.rutgers.edu/rutgers-gsstaff-assignments-nbpisc>
 - Understand the application process....the F31 is ***extensive and confusing!***
 - eRA Commons account
 - Internal documents
 - They ultimately submit your application
- GradFund
 - <http://gradfund.rutgers.edu/>
- Graduate Students
 - Especially those who have successfully applied before!



Biotech Mentors

- **NIH F31**—Alvin Chen, Paulina Krzyszczyk
- **NSF GRFP**—Seul-A Bae, Evelyn Okoke, Antoinette Nelson, Daniel Browe
- **NJ Commission on Cancer Research**—Sarah Misenko, Dharm Patel, Thomas Linz
- **NJ Commission on Brain Injury Research**—Christopher Lowe, Kate O’Neill, Peter Swiatkowski
- **Ford Dissertation Fellowship**--Kate O’Neill
- **PEO Scholarship**—Kathryn Drzewiecki
- **Gilliam Fellowships for Advanced Study**—Ileana Marrero-Barrios
- **American Foundation for Pharmaceutical Education**--Antoinette Nelson
- **Pharmaceutical Research and Manufacturers of America (PhRMA) Fellowship**—Dan Myers

NSF GRF

(National Science Foundation
Graduate Research Fellowship)



www.nsfgrfp.org



- **Mission:** Support basic and applied STEM research with strong potential to advance knowledge and benefit society.
- **Eligibility:** At time of application
 - be in 1st year of graduate school, or
 - 1st semester of second year
- **Deadline:** **October 24-28 (depends on research field)**
- **Award:** 3 years, tuition (\$12K/yr) and stipend (\$32K/yr)
- **Note:** Everything centered around the Merit Review Criteria



Merit Review Criteria

1. Intellectual Merit

- ***Potential of applicant to advance knowledge in the field of study***
 - Show technical proficiency through past research experiences and a strong (well-defined) research plan
 - Ideally, connect your research topic to your past experiences

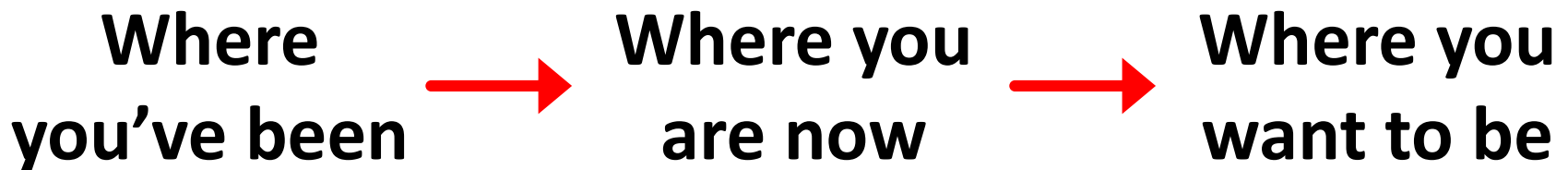
2. Broader Impact

- ***Potential of applicant to benefit society, by:***
 - effectively integrating research and education
 - encouraging diversity
 - enhance scientific and technical understanding
 - benefit society



Application Sections

1. Personal Background and Future Goals (3 pages)
2. Graduate Research Plan (2 pages)
3. Reference Letters (3 letters)
4. Electronic Transcripts
5. **GRE's no longer required!**



NJ Department of Health

**(Graduate Fellowships for Commissions on
Spinal Cord Injury, Brain Injury, and Cancer Research)**



<http://www.nj.gov/health/commiss/org.shtml>

- **Mission:** Support research into causes, prevention, and treatment of specific injury/disease
- **Eligibility:** Post-qualifier (dissertation research stage)
- **Deadline:**
 - **NJ Commission on Brain Injury Research**—October 5, 2016
 - **NJ Commission on Cancer Research**—October 21, 2016
- **Award:** 3 years, \$22-30K/yr
- **Note:** Requirements may vary between Commissions

Application Sections

1. Project Abstract
- 2. Research Plan (up to 8 pages)**
3. Resources and Environment (up to 2 pages)
4. Personal Statement (1 page)
5. Reference Letters (up to 5 letters)

This is mainly a research grant

NIH F31

**(National Institutes of Health
Individual Predoctoral Fellowship)**



<https://researchtraining.nih.gov/programs/fellowships/F31>



- **Mission:**
 - Enable predoctoral students to obtain individualized, mentored research training from outstanding faculty sponsors
 - Enhance the recipient's potential to develop into an independent research scientist

- **Eligibility:** Post-qualifier (dissertation research stage)

- **Deadlines:** **April 8, August 8, December 8 (5:00 PM EST)**

- **Award:** 2-4 years, full tuition and stipend (~\$23K)

- **Note:** 33% individual fellowship
33% training grant
33% research grant



Application Sections

1. Applicant's Biosketch (Personal Statement, CV, and Transcript)
2. Doctoral Dissertation and Other Research Experience (2 pages)
3. Goals for Fellowship Training and Career (1 page)
4. Reference Letters (**up to 5 Letters, not including Sponsor**)

**Individual
Fellowship**

5. Selection of Sponsor and Institution (1 page)
6. Respective Contributions (1 page)
7. Training Activities Planned Under this Award (1 page)
8. Environment, Facilities, and Equipment
9. Sponsor Information, including Reference Letter (**6 pages**)

**Training
Program**

10. Project Abstract
11. Specific Aims (1 page)
12. Research Plan (**6 pages**)
 - a. significance and impact
 - b. preliminary studies
 - c. research design and methods
 - d. human subjects and vertebrate animals
 - e. literature cited

**Research
Grant**

13. Appendix (can include "unofficial" letters of endorsement here)

Review Criteria

Score	Criterion
1 – 9	Fellowship Applicant
1 – 9	Sponsors and Collaborators
1 – 9	Research Training Plan
1 – 9	Training Potential
1 – 9	Institutional Environment
	Overall Impact/Merit

“A fellowship application has a research project that is integrated with the training plan. The application emphasizes the applicant’s potential for an independent scientific research career, the applicant’s need for the training, and the degree to which the research project and training plan, the sponsor(s), and the environment will satisfy those needs.”

Links to Resources – General Tips

■ General grant preparation

- [Preparing and submitting a competitive external graduate fellowship](#)
- [Advice for writing Grants, fellowships, and personal statements](#)
- [Advice for science fellowship applications \(with specifics on NSF, NDSEG, Hertz\)](#)

■ NDSEG

- [Notes for writing a successful NDSEG fellowship application](#)

■ NSF GRFP

- [NSF GRFP advice and examples](#)

■ NIH F31

- [Advice on writing NIH F31 applications from real NRSA reviewers](#)
- [NIH F31 application walkthrough, writing advice, and review criteria](#)

Links to Resources – Samples from Past Winners

▪ NSF GRFP

- [Link 1 \(Sample research proposals and personal statements from 42 past winners\)](#)
- [Link 2 \(More samples from numerous past winners, not all STEM\)](#)

▪ NDSEG

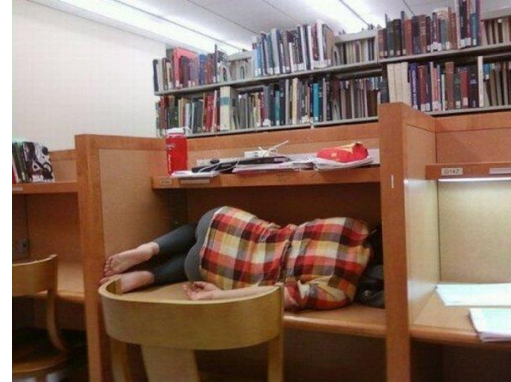
- [Link 1 \(NDSEG winning essay, computational biology\)](#)
- [Link 2 \(NDSEG winning essay, physics\)](#)
- [Link 3 \(Comparison of winning and non-winning essays, computer science\)](#)

▪ NIH F31

- [Link 1 \(4 full application samples from previous NIGMS winners\)](#)
- [Link 2 \(F31 Diversity - 2 full application samples from NIAID winners\)](#)
- [Link 3 \(research plan sample \(12 pages\), fatty acid metabolomics\)](#)

Additional Tips As You Apply

- Make the library your second home



- Take breaks! We are not robots...



When you have submitted it...
make sure you celebrate!!!



But don't forget about post-submission materials and to check back for your result and feedback!





Don't get discouraged!

- Most fellowships allow for resubmissions!
- The feedback that they provide helps dramatically improve your application and increase your chances for success!



If you enjoyed this talk/topic/advice
check out:

**The Rutgers
iJOBS Blog**

Connect with us!



Please, ***share*** your advice and
experiences!

Any questions?