So, You Wanna Submit an F-Grant?

Kayla Seymore, MS
Elanna Arhos, PT, DPT, PhD

BIOMS Seminar Series – September 28, 2022

UNIVERSITY OF DELAWARE

WHAT IS AN F-GRANT?

F-GRANT = FELLOWSHIP GRANT

- Purpose: to provide individual research training opportunities to trainees at the graduate and postdoctoral levels
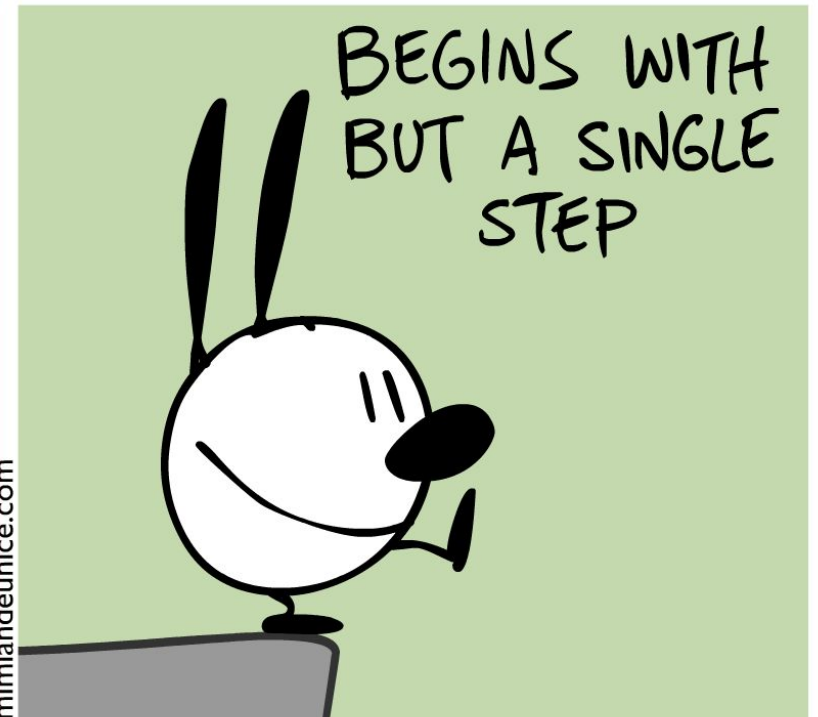
OVERVIEW OF NIH F-GRANT SUBMISSION PROCESS

INITIAL STEPS

SELECT THE APPROPRIATE PROGRAM ANNOUNCEMENT (PA)

Individual Fellowships		Description
F05	International Research Fellowships	Research opportunities for foreign scientists who hold a doctoral degree or its equivalent in the biomedical or behavioral sciences
F30	Ruth L. Kirschstein Individual Predoctoral NRSA for MD/PhD and other Dual Degree Fellowships	Predoctoral training for MD/PhD and other dual Clinical/Research degrees
F31	Ruth L. Kirschstein Predoctoral Individual National Research Service Award	Predoctoral students with potential to develop into a productive, independent research scientists, to obtain mentored research training while conducting dissertation research
F31-Diversity	Ruth L. Kirschstein National Research Service Award Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (Parent F31 - Diversity)	Supporting the research training of predoctoral students from population groups that have been shown to be underrepresented in the biomedical, behavioral, or clinical research workforce
F32	Ruth L. Kirschstein Postdoctoral Individual National Research Service Award	Research training of promising postdoctoral candidates who have the potential to become productive, independent investigators in scientific health-related research fields
F33	Ruth L. Kirschstein National Research Service Awards for Senior Fellows	Enable experienced scientists to make major changes in the direction of their research careers or to broaden their scientific background by acquiring new research capabilities as independent investigators
F99/K00	Individual Predoctoral to Postdoctoral Fellow Transition Award	Facilitate the transition of talented graduate students who have demonstrated potential and interest in pursuing careers as independent researchers into successful research postdoctoral appointments

CONTACT YOUR GRANTS OFFICE WITH INTENT TO APPLY

- Send an email to your department's grants office <u>as early as possible</u>

- Be sure to include the grant:
    - PA (can link to online announcement)
    - <u>NIH application due date</u>

- Grants office will give you internal deadlines for the submission
    - Also help determine the feasibility of your project

Application Due Dates

F Series Fellowships (including F31 Diversity – NOT-OD-17-029) new, renewal, resubmission	**Individual** National Research Service Awards (Standard) (see NRSA Training Page)	April 8	August 8	December 8

FILL OUT UD PRINCIPAL INVESTIGATOR (PI) WEBFORMS

- **PI Eligibility Form**

  - Project title (can be changed before grant submission)

  - Need your advisor, Dept Chair, and College Dean signatures

  - This is an annual form, so you will be required to apply again in one year

  - Ask for an example from a grad student who has previously submitted a grant

FILL OUT UD PRINCIPAL INVESTIGATOR (PI) WEBFORMS

- Conflict of Interest Form
  - Certifying whether or not you have a conflict
  - This is an annual form, so you will be required to apply again in one year
- Keywords Form
  - Words that the university queries to see who is doing research on what topics
  - Pick words that are meaningful and clearly indicate what type of research you are doing
    - Your advisor may have suggestions if you have trouble thinking of some
  - Only submitted once

CREATE/UPDATE ERA COMMONS ACCOUNT

- eRA Commons is the NIH's online portal for research grants

  - Grants are linked to your account username

  - Can use the portal to check status of your grant once submitted

- First time applicants must contact their grants office to create an eRA Commons account

  - Applicants **CANNOT** create their own accounts

- If you already have an eRA Commons account, be sure to update the profile information to match your current role, institution, and location

REVIEW RESEARCH OFFICE PROPOSAL TIMELINE

	A	B	C	D
1	**Timeline for Sponsored Project Submissions**			
2	**Proposal Due to:**	**What's Due:**	**When Due:**	**Date Required:**
3	Sponsor	Complete proposal	Enter due date here:	12/8/2021
4	Central Research Office	Complete Proposal in Agency's Portal (Cayuse, ProposalCentral, etc.)	3 working days prior to Sponsor due date	12/3/2021
5	Central Research Office	Completed PeopleSoft (RO system)	5 working days prior to Sponsor due date	12/1/2021
6	Health Sciences Grants Analyst	Project Narrative, Bio Sketches, Current & Pending, and all other additional sponsor requirements	3 working days prior to Central Research Office due date	11/29/2021
7	Health Sciences Grants Analyst	Abstract, Budget, Budget Justification, Title	2 weeks prior to due date	11/24/2021
8	Health Sciences Grants Analyst (GA)	Notification, including Funding Opportunity Announcement; human subjects involved?; statistical services needed?; PI Eligibility, if required	3-4 weeks prior to due date	11/10/2021
9				

REVIEW RESEARCH OFFICE PROPOSAL TIMELINE

Check:	Documents:	Page limits	Due Date:	To:	Notes
	Notify GA of intention to submit and provide FOA number/link		ASAP	GA	4 weeks minimum notice
	Project Summary/Abstract	30 lines	11/24/2021	GA	Web form can begin routing for Institutional approvals
	Budget (Template provided by Grants Analyst)		11/24/2021	GA	
	Budget Justification (Template provided by Grants Analyst)		11/24/2021	GA	

**For all Fellowship applications, the applicant is considered the PD/PI. Therefore the applicant must have an eRA Commons account with the PI role, and the account must also be affiliated with the applicant organization. ORCID ID also required and linked to eRA Commons.

Check:	Documents:	Page limits	Due Date:	To:	Notes
	Biosketches (key personnel)	5	11/29/2021	GA	use instructions and sample as a guide
	Cover Letter		11/29/2021	GA	individual fellowship applicants must include a cover letter that contains a list of referees (including name, dept affiliation, and institution)
	Project Narrative	3 sentences	11/29/2021	GA	
	Bibliography & References Cited		11/29/2021	GA	
	Facilites & Other Resources		11/29/2021	GA	
	Equipment		11/29/2021	GA	
	Applicants Background and Goals for Fellowship Training	6	11/29/2021	GA	check FOA for specific instructions
	Specific Aims	1	11/29/2021	GA	
	Research Strategy	6	11/29/2021	GA	check FOA for specific instructions
	Respective Contributions	1	11/29/2021	GA	
	Selection of Sponsor and Institution	1	11/29/2021	GA	
	Training in the Resonsible Conduct of Research	1	11/29/2021	GA	
	Sponsor and Co-Sponsor Statements	6	11/29/2021	GA	
	Letters of Support from Collaborators, Contributors and Consultants	6	11/29/2021	GA	
	Description of Institutional Environment and Commitment to Training	2	11/29/2021	GA	page limit includes additional educational information required
	Applications for Concurrent Support (when applicable)	1	11/29/2021	GA	

CREATE A DETAILED PROPOSAL TIMELINE (OPTIONAL)

Document:	Due Date:
Specific Aims DRAFT 1	9/12/2021
Revise Specific Aims DRAFT 2	9/17/2021
Revise Specific Aims DRAFT 3	9/28/2021
Personal Statement DRAFT 1	10/3/2021
Revise Personal Statement DRAFT 2	10/13/2021
Revise Personal Statement DRAFT 3	10/16/2021
Significance and Innovation DRAFT 1	10/19/2021
Revise Significance and Innovation DRAFT 2	10/27/2021
Revise Significance and Innovation DRAFT 3	10/31/2021
Approach/Research Design DRAFT 1	11/2/2021
Revise Approach/Research Design DRAFT 2	11/12/2021
Revise Approach/Research Design DRAFT 2	11/18/2021

NIH F-GRANT RESOURCES

- https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/fellowship-forms-e.pdf

FORMS VERSION E SERIES
Released: September 25, 2017
Revised: December 7, 2018

FELLOWSHIP INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) APPLICATION PACKAGES

Guidance developed and maintained by NIH for preparing and submitting applications via Grants.gov to NIH and other PHS agencies using the SF424 (R&R)

NIH F-GRANT RESOURCES

- https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/page-limits.htm

For all Fellowship (F) Applications
Including F05, F30, F31, F32, F33, F37, F38, F99/K00

Section of Application	Page Limits * (if different from FOA, FOA supersedes)
Project Summary/Abstract	30 lines of text
Project Narrative	Three sentences
Introduction to Resubmission or Revision Application (when applicable)	1
Applicant's Background and Goals for Fellowship Training	6
Specific Aims	1
Research Strategy	6
Respective Contributions	1
Selection of Sponsor and Institution	1
Training in the Responsible Conduct of Research	1
Sponsor and Co-Sponsor Statements	6
Letters of Support from Collaborators, Contributors, and Consultants	6
Description of Institutional Environment and Commitment to Training Note: This page limit includes the Additional Educational Information required for F30 and F31 applications.	2
Applications for Concurrent Support (when applicable)	1
Biographical Sketch	5

DRAFT SPECIFIC AIMS

- State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will have on the research field(s) involved

- This is the crux of the entire proposal!

- You will work **heavily** with your advisor(s) and/or mentor(s) to refine this document
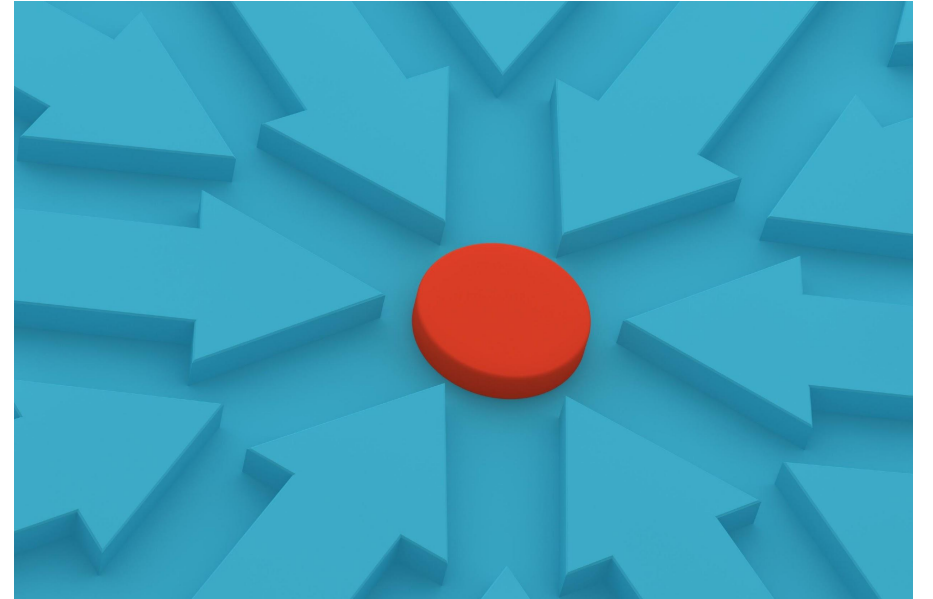
CONSIDER PERSONS FOR LETTERS OF REFERENCE AND SUPPORT

References:

- Letters are submitted in eRA Commons separate from proposal submission
    - Cannot be a sponsor, support, or any other person listed as Senior/Key Personnel in the proposal

- Create a due date (~1 week) in advance of NIH deadline
    - Email chosen due date and <u>NIH instructions</u> to references
    - You may also choose to draft this letter in advance

Reference Letters	Letters of Support
When are they used?	
Used in Fellowships, mentored Career Development Awards, and other programs as requested	Used to demonstrate: -Institutional commitment or resources -Collaboration or role in the project -Potential or current user of a resource or service proposed in the application
Who writes them?	
Referees should be individuals not directly involved in the application, but who are familiar with the applicant's qualifications. The sponsor/co-sponsor(s) cannot be counted toward the 3 required references.	Collaborators, key personnel, institution, and other significant contributors to the scientific development or execution of the project
What should be included?	
-Describe qualities and potential of candidate -Letters can be addressed to "To Whom It May Concern" or "Dear Reviewer"	-Describe the type of support your collaborators will provide to the project -Summarize the agreements you have in place to support your project
Who submits them?	
A referee submits the letters through eRA Commons (no login needed). The letters are maintained separate from the corresponding application.	Applicant organization submits the letters of support as part of the application.
Who sees them?	
Only reviewers and select NIH staff	Anyone with access to view the application
Where are the instructions?	
-Reference Letters page -Special instructions may also be found in funding opportunity announcements and notices	-"Application form instructions" on the How to Apply – Application Guide page. -Special instructions may also be found in funding opportunity announcements and notices (including Notices of Special Interest)

CONSIDER PERSONS FOR LETTERS OF REFERENCE AND SUPPORT

Support:

- Letters are submitted as part of the proposal submission
  - Cannot be a sponsor or reference for the proposal
- Draft this letter based on discussed contribution to the proposal
- Create a due date (~1 week) in advance of institutional deadline
  - Email drafted letter and chosen due date to support

	Reference Letters	Letters of Support
When are they used?	Used in Fellowships, mentored Career Development Awards, and other programs as requested	Used to demonstrate: -Institutional commitment or resources -Collaboration or role in the project -Potential or current user of a resource or service proposed in the application
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WRITING…A LOT!

WRITING: JUST ADD COFFEE.

www.phdcomics.com

PROPOSAL DOCUMENTS

- <u>Read the instructions for all application materials</u>
  - Content and formatting are specific
  - Some documents will need to be completed by advisor(s), mentor(s), sponsors, dept/program chair
- Once the Specific Aims page is refined, these documents can be completed in any order
  - Work with your advisor to come up with an order that makes sense for your project
  - Adjust your deadlines accordingly
- Ask for an example application from a grad student who has previously submitted a grant

FORMS VERSION E SERIES
Released: September 25, 2017
Revised: December 7, 2018

FELLOWSHIP INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) APPLICATION PACKAGES

Guidance developed and maintained by NIH for preparing and submitting applications via Grants.gov to NIH and other PHS agencies using the SF424 (R&R)

COVER LETTER

- Read application instructions for full list of requirements

- Optional for initial submission

- General components:
  - Application title
  - Title of funding opportunity announcement (FOA), aka your PA
  - List of referees (including name, departmental affiliation, and institution)

UNIVERSITY OF DELAWARE.

PHYSICAL THERAPY

STAR Health Sciences
540 S. College Avenue, Suite 210Z
Newark, Delaware 19713
Email: earhos@udel.edu

November 30th, 2020

National Institutes of Health (NIH)
Center for Scientific Review
6701 Rockledge Drive MSC 7768
Bethesda, Maryland 20892-7768

Re: F31 Fellowship Application- F31 (PA-21-051)
Title: "Can we modify gait asymmetry after ACL reconstruction?"

To the Division of Receipt and Referral:

I am pleased to resubmit for review a fellowship proposal (Parent F31) entitled "Can we modify gait asymmetry after ACL reconstruction?" for consideration for the Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (PA-21-051).

The following investigators have submitted letters of reference to support my academic and research qualifications as well as my future potential to develop into an independent investigator:

- **Darcy Reisman**, PT, PhD, Professor and Chairperson, Department of Physical Therapy, University of Delaware; Academic Director of Neurologic & Older Adult Clinic, Department of Physical Therapy, University of Delaware
- **Samuel Lee**, PT, PhD, Director, Biomechanics and Movement Science Program, University of Delaware; Associate Professor, Department of Physical Therapy, University of Delaware
- **Karin Silbernagel**, PT, PhD, ATC, Associate Professor, Department of Physical Therapy, University of Delaware; PI and Director, Tendon Research Group, University of Delaware
- **Gretchen Salsich**, PT, PhD, Professor, Program in Physical Therapy, Saint Louis University

You can reach me at 630-915-9841 or via email at earhos@udel.edu. For any administrative assistance, please contact Laura Holmes at 302-831-8140 or laholmes@udel.edu.

Thank you for your consideration.

Sincerely,

Elanna Arhos, PT, DPT
Research Assistant and Predoctoral Researcher
Biomechanics and Movement Science, College of Health Science
University of Delaware

BACKGROUND AND TRAINING GOALS

Doctoral Dissertation and Research Experience:

- Summarize your past research experience, results, and conclusions, and describe how that experience relates to the proposed fellowship

- If you have no research experience, describe any other scientific experiences

- Doctoral students who have or will have completed their comprehensive examinations by the time of award should include a narrative of your planned dissertation

- Postdoctoral fellowship applicants should specify which areas of your proposed research were part of your predoctoral thesis or dissertation and which, if any, were part of a previous postdoctoral project

BACKGROUND AND TRAINING GOALS

Training Goals and Objectives:

- Describe your overall training goals for the duration of the fellowship and how the proposed fellowship will enable the attainment of these goals

- Identify the skills, theories, conceptual approaches, etc., to be learned or enhanced during the award

- Discuss how the proposed research will facilitate your transition to the next career stage

BACKGROUND AND TRAINING GOALS

Activities Planned Under the Award:

- Describe, by year, the activities (research, coursework, professional development, clinical activities, etc.) you will be involved in during the proposed award

  - Estimate the percentage of time to be devoted to each activity

- Describe the research skills and techniques that you intend to learn during the award period

- Provide a timeline detailing the proposed research training, professional development, and clinical activities for the duration of the fellowship award

SPECIFIC AIMS

Framework of Specific Aims Page:

- Gap in knowledge

- Statement of need

- Consequence of not meeting need

- Long term goal

- Overall objective

- Central hypothesis (general) & how formulated

- Rationale (why you want to do the research)

- Specific Aims (3-4) with working hypotheses

- Expected outcomes - payoff

- Positive impact that results will have

- Gap in knowledge
- Statement of Need
- Long term goal

- **Objective statement**
- AIMS/Hypotheses

- Expected outcomes/Payoff
- Positive impact on the field
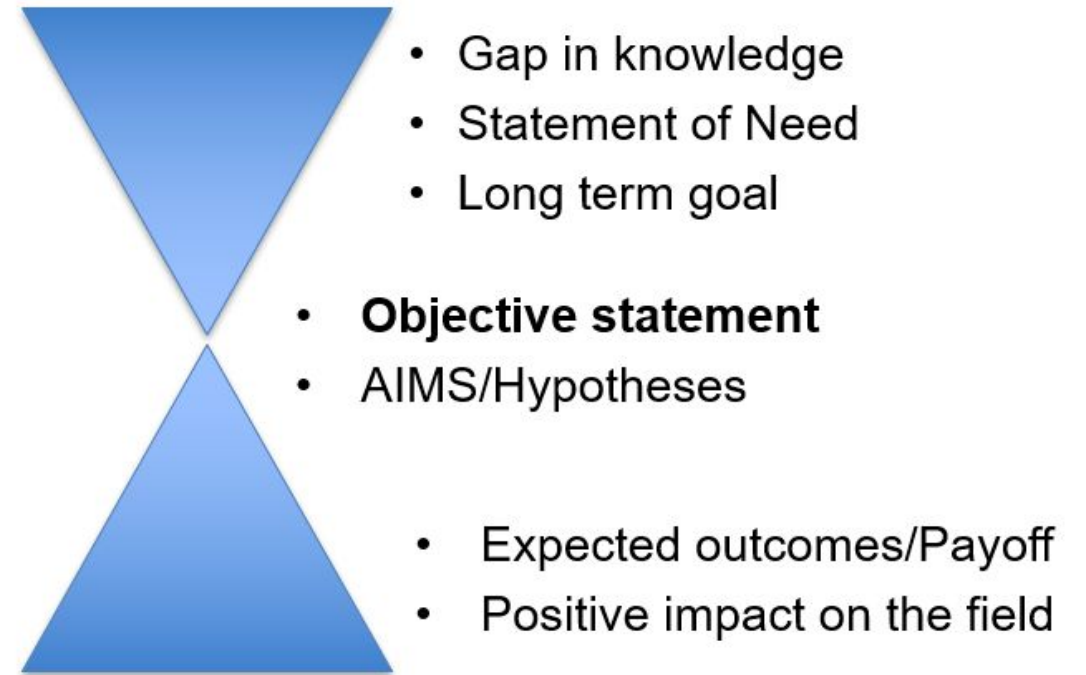
RESEARCH STRATEGY

Significance (& Innovation):

- Explain the importance of the problem

- Describe the strengths and weaknesses in the rigor of the prior research

- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice

- Describe how the research field will be changed if the proposed aims are achieved
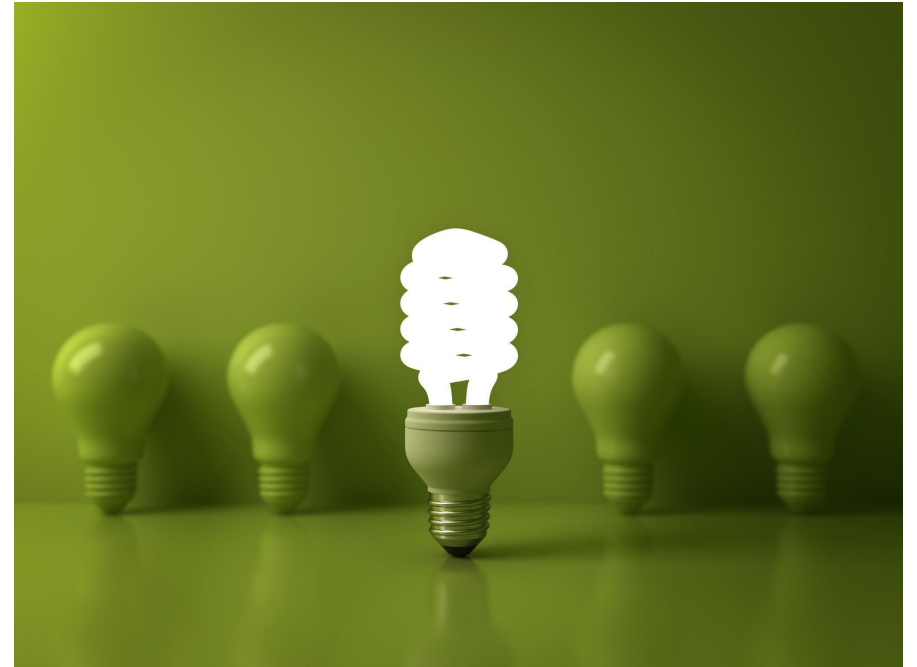
RESEARCH STRATEGY

Approach:

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project

- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims

- Make sure the proposed work is feasible within a 2-year time frame

FACILITIES AND OTHER RESOURCES

- Describe how the scientific environment contributes to the probability of success

  - Institutional support, physical resources, intellectual rapport

- Identify facilities to be used and resources directly applicable to the proposed work

- UD Example: Health Sciences Complex, STAR Campus (detail labs), UD Office of Research, UD Library, Department of Physical Therapy, BIOMS Program, PT Clinic, DRI/CHRC, DE-CTR ACCEL Program, detail lab spaces, PhD Advisor to Trainee location

RESPECTIVE CONTRIBUTIONS

- Describe collaborative process between you and your sponsor/co-sponsor in development, review, and editing of Research Training Plan

- State sponsor did not write any of the major sections (e.g., Aims, Research Strategy) but <u>DID</u> write the Sponsor and Co-Sponsor section

- Define respective project roles for accomplishing proposed research (e.g., data collection/management, data analysis/interpretation, and abstract/manuscript preparation)

  - This is where you describe what each supporter will do what on the grant

SELECTION OF SPONSOR AND INSTITUTION

- Describe the rationale and justification for the selection of sponsor(s) and institution
    - Detail how the sponsor, co-sponsor, and institution help to accomplish training goals
- UD example: discuss mentors, Department of Physical Therapy, Interdisciplinary Biomechanics and Movement Science Program, STAR facilities

INSTITUTIONAL ENVIRONMENT AND COMMITMENT TO TRAINING

- Document a strong, well-established research program related to the candidate's area of interest

- Describe opportunities for intellectual interactions (journal clubs, courses offered, seminars, presentations)

- Indicate facilities and other resources made available for career enhancement and research proposed

- Describe graduate program (required milestones and timing, number of courses, teaching commitments, qualifying exams, average time to degree, applicant's status in relation to program timeline, evaluation methods)

- Department/Program Chair will sign the bottom of this document

BIOMS An Interdisciplinary Approach to Research and Graduate Education
BIOMECHANICS AND MOVEMENT SCIENCE

DESCRIPTION OF CANDIDATE'S CONTRIBUTION TO PROGRAM GOALS

- Required for applicants submitting to diversity-related FOAs (e.g., F31-Diversity)

- Must provide a document on institutional letterhead that explains how the candidate's participation will further the goals of the fellowship program to promote diversity in health-related research

- Document must be signed by an institutional official (e.g., Dean or Dept/Program Chair)

EQUIPMENT LIST

- List major equipment already available for the project

- Include equipment location and capabilities

- UD Example: Data collection (8-camera Vicon infrared-based motion capture system, split-belt treadmill with 2 embedded force platforms), data management, data analysis software, scientific writing (Microsoft Office, Mendeley Desktop), dedicated data storage, clinical training equipment (Biodex)
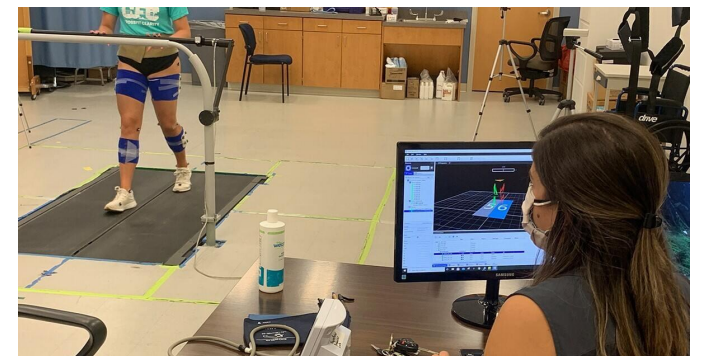
TRAINING IN RESPONSIBLE CONDUCT OF RESEARCH

- Describe formal training for responsible conduct of research

  - In-person course put on by UD Research Office

  - CITI training

  - Protection of Minors in Research

  - Good Clinical Practice

- Describe informal training for responsible conduct of research

  - Weekly individual and laboratory meetings

  - Discussion of topics/unexpected situations

SPONSOR/CO-SPONSOR STATEMENT

- Should be written by the sponsor and co-sponsor themselves

- Must address research support available: table with current and pending research and research training support available to the applicant (funding source, start/end date, PI name, etc.)

- List total number of predoctoral and postdoctoral individuals previously sponsored and detail 5 representatives time spent in lab, present employers, and present titles

- Research Training Plan

- Number of trainees supervised during fellowship

- Applicant's qualifications and potential for a research career

SPONSOR/CO-SPONSOR STATEMENT

- Research Training Plan
  - Individualized to applicant's strengths and gaps in skills
  - Designed to enhance research and clinical training (if applicable)
  - Include classes, seminars, opportunities for interaction with other groups and scientists, professional development opportunities
  - Describe research environment and available research facilities and equipment
  - Describe mentorship coordination
  - Describe relationship between proposed research training and applicant's career goals
  - Describe skills/techniques applicant will learn and relate to applicant's career goals
  - Discuss facilitation of applicant's transition to next stage of career

ADDITIONAL FORMS

BUT WAIT ... THERE'S MORE!

PUBLIC HEALTH SERVICE (PHS) HUMAN SUBJECTS & CLINICAL TRIALS INFORMATION

- **<u>Start this early!</u>**

- Filled out if research involves human subjects

- Uploaded as one document

  - ensure all attachments are PDFs and file names are <30 characters

- Attachment files <u>for each study</u> (6): study population characteristics, recruitment and retention plan, inclusion of women/minorities/children, study timeline, inclusion enrollment report (planned locations, racial and ethnic demographics), protection and monitoring plans

Study Record: PHS Human Subjects and Clinical Trials Information

OMB Number: 0925-0001 and 0925-0002
Expiration Date: 03/31/2020

* Always required field

Section 1 - Basic Information

1.1. * Study Title (each study title must be distinct)

1.2. * Is this Study Exempt from Federal Regulations?   Yes   No

1.3. Exemption Number   1 2 3 4 5 6 7 8

1.4. * Clinical Trial Questionnaire

If the answers to all four questions below are yes, this study meets the definition of a Clinical Trial.

1.4.a. Does the study involve human participants?   Yes   No
1.4.b. Are the participants prospectively assigned to an intervention?   Yes   No
1.4.c. Is the study designed to evaluate the effect of the intervention on the participants?   Yes   No
1.4.d. Is the effect that will be evaluated a health-related, biomedical, or behavioral outcome?   Yes   No

1.5. Provide the ClinicalTrials.gov Identifier (e.g. NCT87654321) for this trial, if applicable

Section 2 - Study Population Characteristics

2.1. Conditions or Focus of Study

X
Add New Condition

2.2. Eligibility Criteria

2.3. Age Limits   Minimum Age   Maximum Age

2.4. Inclusion of Women, Minorities, and Children   Add Attachment Delete Attachment View Attachment

2.5. Recruitment and Retention Plan   Add Attachment Delete Attachment View Attachment

PHS ASSIGNMENT REQUEST FORM

■ Optional form if you want to request an institute (e.g., NIAMS, NICHD) or study section

PROJECT SUMMARY/ABSTRACT & NARRATIVE

Project Summary/Abstract	Project Narrative
A succinct and accurate description of the proposed work	Communicates the public health relevance of the project to the public
30 lines of text or less	No more than 2-3 sentences
Should be informative to other persons working in the same or related fields and understandable to a scientifically literate reader	Use plain language understandable by a general audience
Include: the project's broad, long-term objectives and specific aims, and a description of the research design and methods. **Do not** include: proprietary or confidential information, or descriptions of past accomplishments.	Describe how, in the short or long term, the research would contribute to: the fundamental knowledge about the nature and behavior of living systems, and/or the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.
If the application is funded, the summary/abstract will be available on RePORTER	If the application is funded, the narrative will be available on RePORTER

BIOSKETCH

- All senior/key personnel must include a biographical sketch (aka biosketch)

- Must provide <u>eRA Commons username</u>

- Instructions, templates, and sample formats available on the <u>Biographical Sketch Format</u> page

  - Be sure to use fellowship format template

- Sponsor/co-sponsor personal statements should reflect their contribution to the research project and applicant training

OMB No. 0925-0001 and 0925-0002 (Rev. 10/2021 Approved Through 09/30/2024)

BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Seymore, Kayla D.

eRA COMMONS USER NAME (credential, e.g., agency login): SEYMOREK

POSITION TITLE: PhD Student/Research Assistant

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
University of Central Florida, Orlando, FL	BS	08/2009	05/2013	Psychology
East Carolina University, Greenville, NC	MS	08/2013	05/2015	Exercise Sport Science
University of Delaware, Newark, DE	PhD (anticipated)	02/2020	05/2024	Biomechanics and Movement Science

A. Personal Statement
I am a PhD student in the Biomechanics and Movement Science (BIOMS) program at the University of Delaware studying Achilles tendon health and exercise rehabilitation with a collaborative team of biomedical professionals and clinical researchers. I proudly represent Black women in the fields of science, technology, engineering, and math (STEM); a historically underrepresented intersectionality in STEM research disciplines. My long-term goals are to pursue postdoctoral training, become research faculty in clinical biomechanics, and continue to advocate for diversity in STEM through community outreach.

BUDGET & BUDGET JUSTIFICATION

- Grants office will assist with budget

- Budget includes personnel (yourself), supplies and expenses (institutional allowance: fixed amount ~$4,200), and tuition (includes full-time annual graduate student fees)

- Budget justification details what the NIH ~$4,200 will be spent on (e.g., participant compensation, conferences, supplies for data collection, etc.) as well as tuition, indirect costs, and effort (12 calendar person-months)
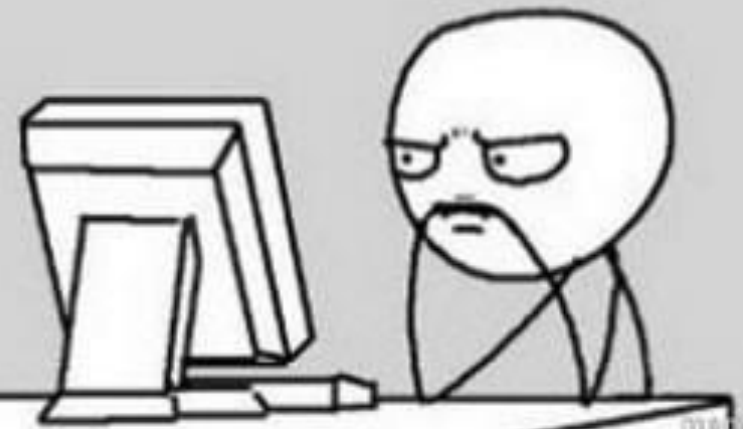
  - PI may have a budget justification template

SUBMIT!

AFTER THE SUBMISSION

REVIEW PANEL

- You will get an email with an assignment to a study section and date of review

- You can look up the reviewers of the grant one week prior to study section review

- Scores released within 3 days after the study section meeting

- Summary statement released within 30 days after the study section meeting

RE: Application #: 1F31AR078580-01
      Contact PI: ARHOS, ELANNA
      Title: Can we modify gait asymmetry after ACL reconstruction?
      AOR/SO Email: UDELAWARE-AWARDS@UDEL.EDU

Please read and save this important information!

Dear Applicant,

NIH has received your grant application and it is assigned to the **ZRG1 F10B-B(20)L** Special Emphasis Panel for review. As the Scientific Review Officer for this panel, I will be your primary NIH contact **before** the review. This email may also answer questions you have.

How can I see who is on this review panel?

The aggregate roster including reviewers from multiple MOSS SEPs will be available 30 days before the meeting.

May I speak to a reviewer?

NO! Neither you nor anyone on your behalf may contact a study section member about any aspect of the review of your application before, during, or after the study section meeting. Contacting a study section member violates NIH confidentiality and conflict of interest rules. It could lead to a deferral or administrative withdrawal of your application.

When will I hear about the review outcome?

>   This study section will meet on **July 09-10, 2020 (Thursday and Friday)**.
    –   Priority scores will be released on eRA Commons within 3 business days after the SS meeting
    –   Summary statements will be released within 30 days after the meeting

SCORING SYSTEM

- Preliminary scores: Before the study section meeting, reviewers assign scores for overall impact and individual review criteria; 9-point scale, whole numbers only

  - Not discussed grants will not receive an impact score or criterion scores

- Criterion scores: Reviewers evaluate at least 5 individual criteria of proposal (significance, investigator, innovation, approach, environment) with strengths and weaknesses listed for both (major and minor)

- Overall impact scores: Reviewers evaluate overall impact of proposal; NOT a numerical average of individual criterion scores

- Priority (final) score: Reviewers present their assigned grant in the study section meeting, each eligible reviewer gives an impact score, and the result is multiplied by 10 for the priority score; range from 10 – 90

Overall Impact or Criterion Strength	Score	Descriptor
High	1	Exceptional
	2	Outstanding
	3	Excellent
Medium	4	Very Good
	5	Good
	6	Satisfactory
Low	7	Fair
	8	Marginal
	9	Poor
Other Designations for Final Outcome		
AB		Abstention
CF		Conflict of Interest
DF		Deferred
ND		Not Discussed
NP		Not Present
NR		Not Recommended for Further Consideration

SUMMARY STATEMENT

- Priority score and percentile ranking (not all grants have percentile ranking)

- Overall summary of review discussion (if scored)

- Reviewer critiques

- Budget recommendations

- Administrative notes

FUNDING LINES

- Each NIH institute publishes their own funding plan which tells you what percentile or priority score grants will be paid through for that fiscal year

- NIAMS example from 2021:

Research Training

- Competing research training fellowships (F31, F32, and F33) will be paid through the percentile of 22.

- A payline has not been set for competing research training fellowships (F30).

- Competing institutional training applications (T32) will be paid through the priority score 29.

RESUBMISSION

- Only a SINGLE resubmission is allowed
  - After an unsuccessful resubmission, you can submit the idea again as a new application

- <u>Cover letter</u> making note of resubmission required

- <u>New letters</u> of recommendation/support required

- <u>One-page introduction</u> required that details substantial additions, deletions, or changes to the application
  - Prioritize reviewer feedback, address mainly <u>major</u> weaknesses
  - Important to demonstrate reviewer feedback was incorporated, as many study sections will have repeated individuals or try to have at least one original reviewer to evaluate the resubmission

INTRODUCTION

We were encouraged by the reviewers' positive feedback in noting this work as a "novel application of a well-studied probe of motor learning" to understand the capacity to learn new gait patterns and inform the development of interventions to reduce gait asymmetries after ACLR. Reviewers noted there was a "strong scientific premise for the fundamental question of motor learning in this clinical population." There were, however, one major and several moderate to minor concerns that diminished the enthusiasm for the proposal. In this resubmission, we have responded to the critiques below and with revisions throughout the proposal.

Major concern: Reviewers were concerned that the timing of post-learning assessment did not seem logical as it occurs after washout when most of the adapted gait will have been resolved. We have restructured the paradigm to address these concerns. The paradigm will now be: 1) adaptation and washout, 2) re-adaptation, and 3) immediate overground following re-adaptation (Figure 1, Research Strategy). Participants' ability to adapt knee mechanics will be assessed in the first adaptation and washout period. The ability to retain changes in mechanics will be assessed in re-adaptation. Finally, overground transfer will be assessed directly after re-adaptation. Our aims have therefore changed, with Aim 1 assessing properties related to adaptation, Aim 2 assessing retention, and exploratory Aim 3 assessing overground transfer after re-adaptation.

Minor concerns:

1. One reviewer had a concern about the possibility that the Aims were interdependent and ACLR participants may not be able to adapt their gait. Additional preliminary pilot data shows individuals after ACLR can adapt and store new knee joint mechanics (see: Research Strategy), however the retention (Aim 2) and ability to transfer overground has not been assessed (Exploratory Aim 3). To address amount learned in Aim 1 affecting carry-over, we will use a Transfer Index (Research Strategy) which normalizes outcomes to the amount learned in adaptation. Further, we do not know if the magnitude and rate of learning, retention, and transfer after ACLR is different from uninjured individuals. In the revision, we include a control group of uninjured, age, sex and activity-matched individuals to compare the adaptability of knee mechanics to participants after ACLR.

2. Reviewers expressed concern regarding no formal courses/training opportunities identified as part of the fellowship (e.g., grant writing, EMG). Musculoskeletal modeling (and therefore EMG) has been removed in order to first focus on understanding adaptation strategies of knee kinematics/kinetics in individuals after ACLR compared to uninjured individuals. Coursework and grant writing details have been expanded upon in detail under the Training Plan portion. I took a Kinesiologic EMG course and have added coursework in Biostatistics and Neurobehavioral Control of Gait to my training plan. I will participate in a NIH Summer Course for grant writing as well as attend UD sponsored grant writing workshops, highlighted under "Coursework/Workshops". Additionally, we have expanded on the formal training opportunities. Dr. Ryan Pohlig has been added to the mentorship team for biostatistical mentorship.

3. Reviewers noted the study does not control for graft type, mechanism of injury, or meniscal pathology, several concomitant factors which impact functional recovery after ACL reconstruction. We now collect relevant concomitant factors to account for within our analyses, further described in Research Strategy "Clinical Data".

4. Reviewers noted the study was only powered on one primary outcome for one Aim of the study, therefore other aims may be underpowered. We now have the same primary outcome variable for each

QUESTIONS?