



WHERE DISCOVERIES BEGIN



Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)

Research on Broadening Participation in STEM (BPR) Projects

Proposal Preparation Guidance Webinar

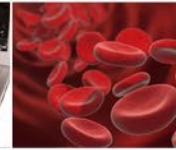
Program Directors:

Carleitta Paige-Anderson, LeRoy Jones II, Tori Rhoulac Smith, Alfred Hall and Joyce Belcher

Division of Equity for Excellence in STEM
Directorate for STEM Education
National Science Foundation



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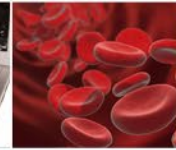


Webinar Agenda

- Historically Black Colleges and Universities Undergraduate Program Overview
- Research on Broadening Participation in STEM Projects
 - Eligibility
 - Overview
- Proposal Preparation and Submission Guidelines
- Merit Review Process
- For Your Consideration



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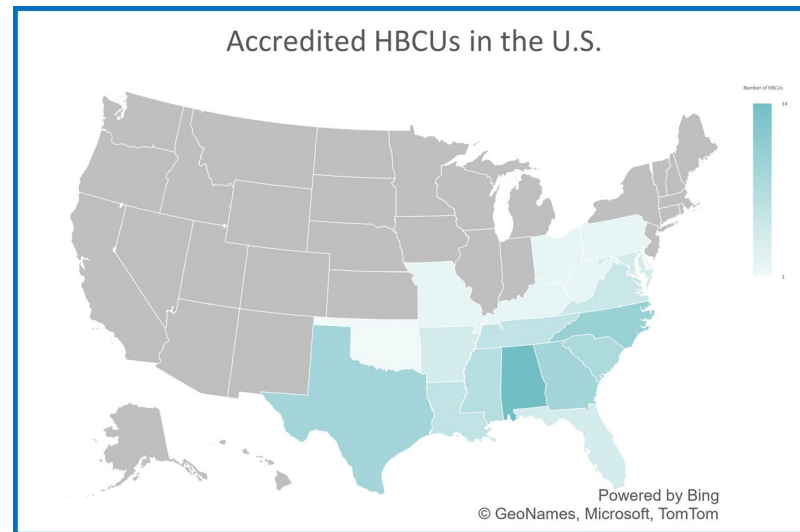


Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)



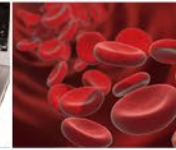
Historically Black Colleges and Universities- Undergraduate Program (HBCU-UP)

- Goal: To enhance the quality of undergraduate STEM education and research at HBCUs in order to broaden participation in the nation's STEM workforce and STEM graduate programs.





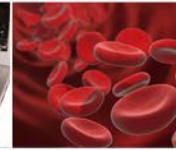
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HBCU-UP

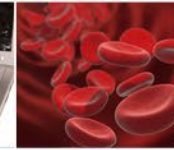
Supports development, implementation, and the study of evidence-based, innovative models and approaches to prepare HBCU undergraduates for STEM workforce.

- ✓ **Innovation in instruction** and curriculum development
- ✓ STEM research experiences for undergraduates
- ✓ Critical transitions (K-12 to undergraduate, 2-year to 4-year, retention from freshman to sophomore, undergraduate to graduate)
- ✓ STEM faculty professional and leadership development
- ✓ **Enhance STEM faculty research**
- ✓ **Research capacity building**
- ✓ **Broadening participation research in STEM Education**
- ✓ STEM teacher preparation



HBCU-UP Funding Tracks (NSF 23-563)

- **Research on Broadening Participation in STEM Projects**
- Research Initiation Awards
- Targeted Infusion Projects
- Implementation Projects
- Broadening Participation Research Centers
- Other Funding Opportunities
 - Conference, Planning, Rapid Response Research (RAPID), Early-Concept Grants for Exploratory Research (EAGER)



How do you seek to advance STEM Education and Research?

Faculty Research

- Research on Broadening Participation in STEM Projects
- Research Initiation Awards

Institutional Change

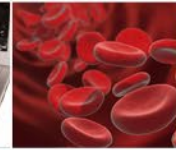
- Targeted Infusion Projects
- Implementation Projects

National Impact

- Broadening Participation Research Centers



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Research on Broadening Participation in STEM Projects (BPR)

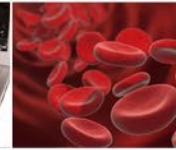


Research on Broadening Participation in STEM Projects (BPR)

- Provide support for research that seeks to create and study new theory-driven models and innovations related to the participation and success of underrepresented groups in STEM undergraduate education.
- Eligibility: Historically Black Colleges and Universities (HBCUs) that are accredited and offer undergraduate educational degree programs in science, technology, engineering and mathematics (STEM).
 - An eligible institution can submit no more than two BPR proposals per year.
- Restrictions: Equipment cost not allowed.
- The Principal Investigator for these projects must be responsible for managing the project and must be one of the key researchers.
 - At least one of the Principal Investigators must have experience in education or social science research.
 - Limit on Number of Proposals per PI or Co-PI: 2



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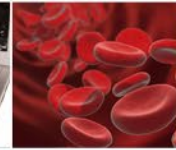


Broadening Participation Research in STEM Education (BPR)

- Up to 3-year projects to investigate topics that impact the recruitment, retention, and success of students in STEM education and the workforce.
- May investigate behavioral, cognitive, affective, learning and social differences, as well as organizational, institutional or systemic processes that may impact participation and success in STEM education.
- Must be grounded in theory, incorporate recent innovation, research methodologies, conceptual frameworks, and/or data gathering and analytic techniques.



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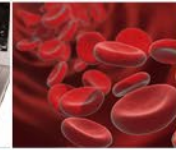


Broadening Participation Research in STEM Education (BPR)

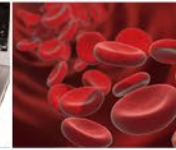
- Demonstrate how the methods chosen will result in rigorous, cumulative, reproducible, and usable findings to merit peer-review and publication.
- Must include PIs with demonstrable expertise in education research and/or social science research methods and knowledge about STEM programs at HBCUs.
- Proposers are encouraged to establish collaborations to strengthen the research project and describe in the proposal the nature of the collaboration and the anticipated benefits.
- As appropriate, proposals should describe mechanisms to transfer findings into educational practice for use by other researchers and policymakers.



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Proposal Preparation and Submission Guidelines



Two Important Documents

- The HBCU-UP program solicitation, NSF 23-563, is available at: [Historically Black Colleges and Universities Undergraduate Program \(HBCU-UP\) \(nsf23563\) | NSF - National Science Foundation](#)
- The Proposal and Award Policies and Procedures Guide is available at: [PAPPG \(NSF 23-1\) dated January 30, 2023](#)
 - This guide gives you step by step instructions on proposal preparation in Chapter II.



BPR Important Proposal Submission Details

Letter of Intent

September 13, 2023*

Full Proposal

November 9, 2023*

*Second Tuesday in September, Annually Thereafter

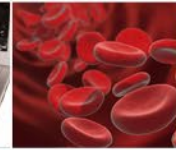
*Second Thursday in November, Annually Thereafter

- LOIs are required for BPR full proposal submissions.
- ALL full proposals should be submitted via [research.gov](https://www.research.gov)
- Associate LOI ID with full proposal (insert in box)

Related Letter of Intent

Refer to funding opportunity [NSF 23-563](#) to determine letter of intent requirements. If needed, enter a letter of intent ID number that uses the same solicitation as this proposal.

Letter of Intent ID Number (e.g., L7654321)

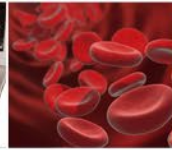


NSF Proposal Content

- Cover Sheet and Certifications
- Project Summary
 - Both intellectual merit and broader impacts described
- Table of Contents (Automatic)
- **Project Description**
- References Cited
- Biographical Sketches (new format – SciENCv FAQ)
- Budgets and Budget Justification
- Current and Pending Support (new format)
- Facilities, Equipment and Other resources

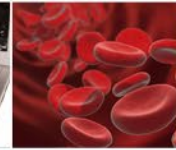


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NSF Proposal Content

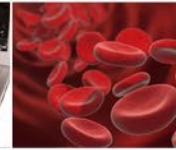
- Collaborators and other Affiliations as a single copy document
- Special Information/Supplementary Documents
 - Mentoring Plans
 - Undergraduate student, Graduate student and/or Post-Doctoral research (if applicable)
 - Data Management Plan
 - Letters of Collaboration
 - Evaluator Credentials



Proposal Preparation Instructions

Cover Sheet

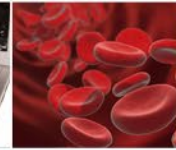
- Please begin the project title with “**Research on Broadening Participation in STEM Project: *Followed by the title***”
- If applicable, **mark the corresponding box regarding human subjects.**
 - Pending review; Exempt; IRB approval (expiration date)
- Be sure to check all boxes that apply. Each box refers you to a section in the PAPPG, if you have questions.



Proposal Preparation Instructions

Project Summary

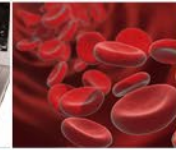
- Each proposal must contain a summary of the proposed project not more than one page in length.
- The Project Summary consists of an **overview**, a statement on the **intellectual merit** of the proposed activity, and a statement on the **broader impacts** of the proposed activity.



Proposal Preparation Instructions

Project Description (15-page limit)

- The Project Description for NSF proposals must contain, as a separate section within the narrative, a discussion of the **intellectual merit and broader impacts** of the proposed activities. This should **not** be merely a repeat of the statements from the project summary, but an expansion of these statements.
- In addition, where applicable, Intellectual Merit and Broader Impact activities **must** be described in summary of **Results from Prior NSF Support**.



Proposal Preparation Instructions

Project Description - Background and Context

- Describe the research question(s) to be investigated and explain the significance and importance of answering the proposed research question(s).
- Discuss the base of research/theory that motivates the question(s).
- Explain how the project will contribute to the knowledge base of broadening participation research and how it has the potential to be replicated at other HBCUs, and other institutions seeking to increase the success of underrepresented students in STEM.



Proposal Preparation Instructions

Project Description - Proposed Research Activities

- Describe the research plan (design, data collection, data analysis, etc.) that will be undertaken to answer the research question(s).
- Address the validity and reliability of new or previously validated survey instruments.
- Provide a timeline for the research plan - include measurable objectives and outcomes and identify who will be responsible for completing each task.
- A study of a promising intervention and effectiveness studies are permitted.
- In general, implementation activities are not recommended under Broadening Participation Research Projects. In some cases, implementation activities may be appropriate, but these activities must clearly be required to answer the proposed research question(s) and must be significantly different from implementation activities undertaken in other projects.



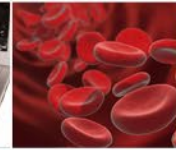
Proposal Preparation Instructions

Project Description - Dissemination

- Describe detailed plans to communicate the results and outcomes of the project to other professionals in STEM education and research, the higher education community, and policy makers (as appropriate) both during and after the project.
- Describe the information to be disseminated, the means of dissemination, and the procedures for determining the success of the dissemination effort.

Project Description - Management

- Provide a management plan for the project that will ensure that the activities and the required reporting will be implemented on time and within budget.
- At least one of the PIs on the project must have formal training or significant professional experience in education or social science research.



Proposal Preparation Instructions

Project Description – Evaluation

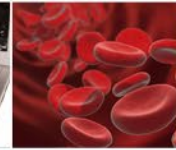
- All projects are expected to track and report their accomplishment of proposal targets for broader impacts and intellectual merit.
- Projects should include a strategy for ongoing objective external feedback using benchmarks, indicators, logic models, roadmaps or other evaluative methods to document progress toward goals, objectives and outcomes defined in the proposal.
- A plan for soliciting objective external feedback must be documented in the proposal.
 - This objective external feedback can be provided in different forms such as an advisory board, experts in the field, or through a formal evaluation, if appropriate.
- The plan should address the assessment of project outcomes and contributions to the research knowledge base and/or educational practice.
- The evaluator should be someone external to the project.



Proposal Preparation Instructions

Additional Proposal Preparation Instructions

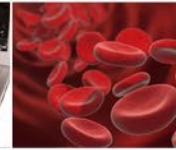
- Include references cited in the proposal. Follow PAPPG guidelines. Be sure your references reflect the most current state of the research in your field, and you are citing them properly in the proposal.
- Include [biographical sketches](#) in SciENCv Format, required beginning October 23, 2023.
- Include [current and pending support](#), as well as *facilities, equipment and other resources* pages and use NSF format.
 - Enter this proposal as pending support.



Proposal Preparation Instructions

Budget and Budget Justification

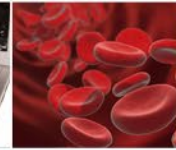
- Proposals should budget for the PI to attend a 2-day grantee meeting in the Washington, DC area each year of the project.
- If a postdoctoral fellow will be included, be sure to include the salary, fringe benefits, and up to \$2,000 annual travel allowance.
- Include a clear and detailed budget justification with your budget. Use the federally negotiated indirect cost rate in your budget.
- Follow the PAPPG closely when preparing the budget, especially where participant support is involved.
- Consult with your SRO on indirect cost rate – what categories it applies to, what the university's negotiated rate is etc.



Proposal Preparation Instructions

Facilities, Equipment & Other Resources

- Provide a description of available facilities and priorities for their use, if applicable. Please note that this section is a required part of the proposal.
- This is the section where you may describe institutional support provided to your project. Such as, the fact that the university will provide maintenance and utilities for a laboratory.
- Do not provide any \$ amounts – voluntary committed cost sharing is not allowed.

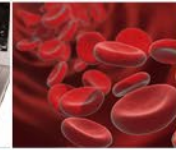


Proposal Preparation Instructions

Supplementary Documentation

- In the special information/supplementary documentation section of the proposal, include the following information only:
 - Letters of collaboration (standard language in PAPPG)
 - Data management plan
 - Postdoctoral researcher mentoring and/or undergraduate or graduate student mentoring plans
 - The evaluator's credentials.

NOTE: The supplementary documentation section of the proposal may not be used to continue the project description.



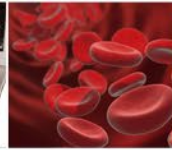
Proposal Preparation Instructions

Supplementary Documentation

- **Data Management Plan:** All proposals must describe plans for data management and sharing of the products of research or assert the absence of the need for such plans. The data management plan will be reviewed as part of the intellectual merit or broader impacts of the proposal, or both, as appropriate. Information can be found at: <https://www.nsf.gov/bfa/dias/policy/dmpdocs/ehr.pdf>
Other Resource: <https://dmptool.org>
- **Postdoctoral Researcher and/or Undergraduate/Graduate Student Mentoring Plan:** Each proposal that requests funding to support postdoctoral researchers, undergraduate or graduate students must include, as supplementary documents, a description of the mentoring activities that will be provided for such individuals.

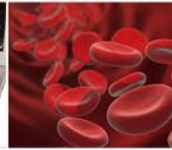


WHERE DISCOVERIES BEGIN



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MERIT REVIEW PROCESS



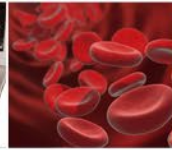
Proposal Preparation Instructions

NSF Merit Review Criteria:

Both criteria, **Intellectual Merit** and **Broader Impact**, will be given full consideration during the merit review and decision-making process. Each criterion is necessary but neither, by itself, is sufficient. Proposers must fully address both criteria.

The following elements will be considered in the proposal's review:

- What is the potential for the proposed activity to:
 - advance knowledge and understanding within its own field or across different fields (**Intellectual Merit**); and
 - benefit society or advance desired societal outcomes (**Broader Impacts**)?



Proposal Preparation Instructions

NSF Merit Review Criteria

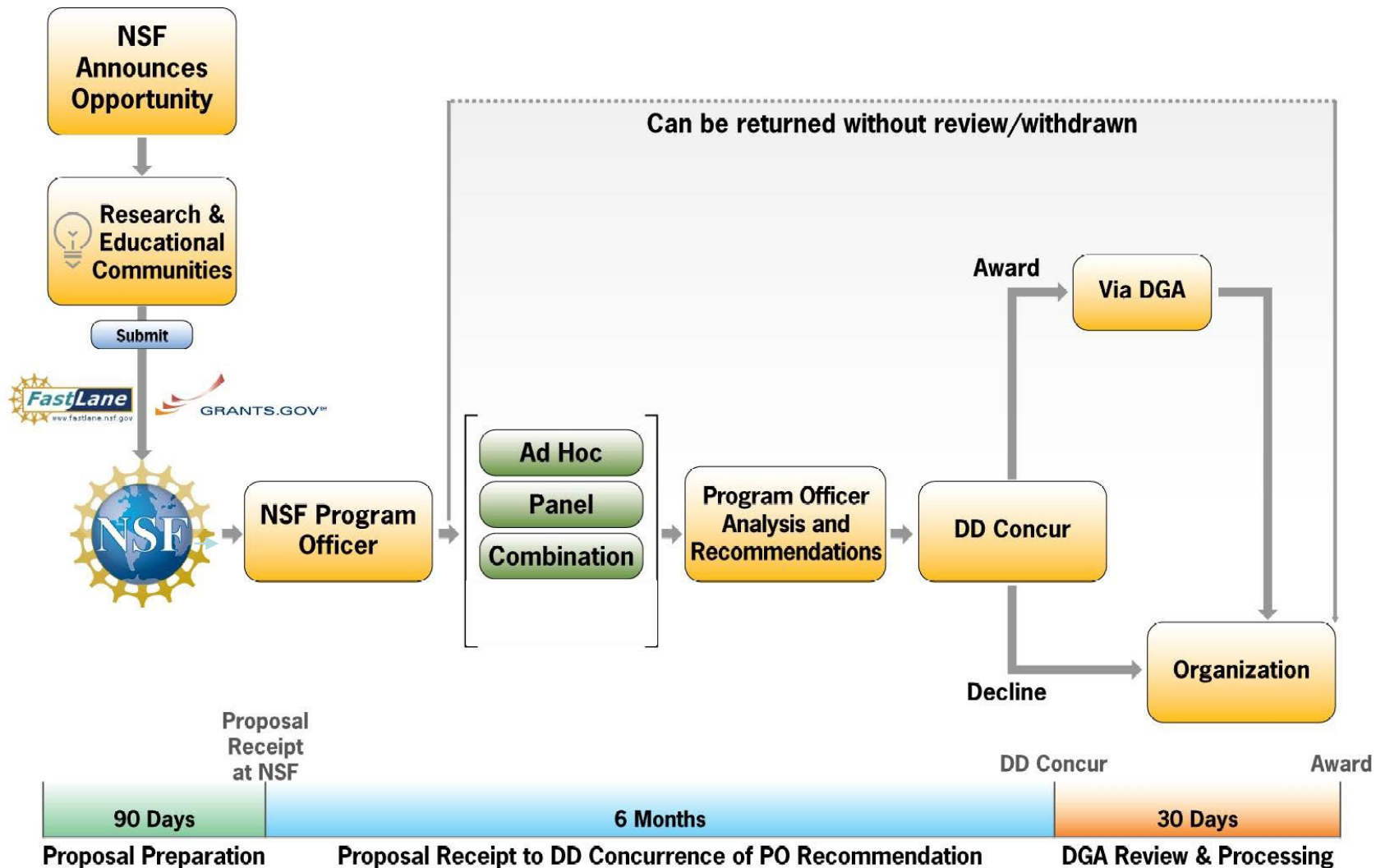
- To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
- Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
- How well qualified is the individual, team, or institution to conduct the proposed activities?
- Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?



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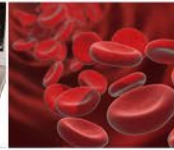


Proposal Processing: Average duration

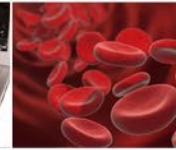




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For Your Consideration

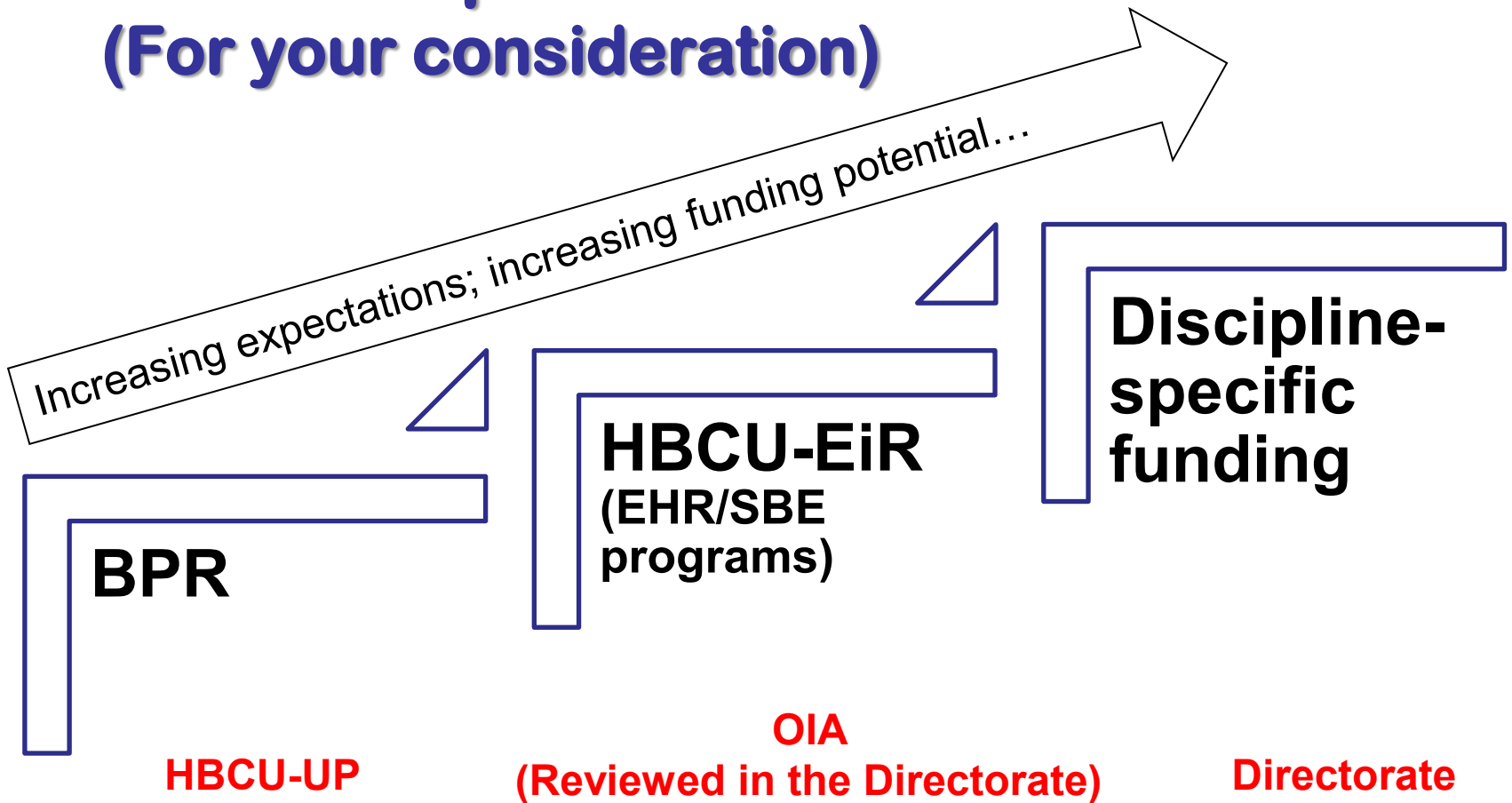


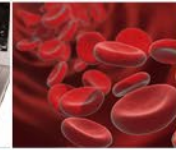
Common Concerns Leading to Declined BPR Proposals

- Research is not grounded in an appropriate theory or theoretical framework.
- Implementation activities are proposed and not justified within the context of the proposed research.
- Evaluation plan is generic and vague and does not link to goals and objectives
- Underdeveloped data management plan
- Weak letters of collaboration and/or missing letters of collaboration
- If students are in budget, no discussion on how students will be engaged or impact on students
- Proposal was not proof-read and has typos, font issues, illegible tables or charts



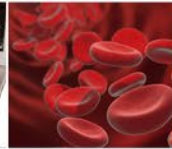
PI Road Map: Ascension (For your consideration)





Stay Informed

- Join the HBCU-UP List Serv
 - To subscribe:
 - 1) Send an e-mail to LISTSERV@LISTSERV.NSF.GOV
 - 2) Leave the subject line blank
 - 3) The body of the message should say: subscribe HBCU
'your full name'
 - Example of the body of your message:
 - subscribe HBCU Percy Julian
- General Questions:
 - HBCU_UP@nsf.gov



HBCU-UP Team Contact Information

Carleitta Paige-Anderson:

cpaigean@nsf.gov

(703)292-2816

Toni Edquist:

tedquist@nsf.gov

(703) 292-4649

Joyce Belcher:

jbelcher@nsf.gov

(703) 292-8221

Alfred Hall:

alfhall@nsf.gov

(703) 292-4895

LeRoy Jones II:

ljones@nsf.gov

(703) 292-4684

Tori Rhoulac Smith:

tosmith@nsf.gov

(703) 292-2315