

Centers of Research Excellence in Science and Technology HBCU Research Infrastructure for Science and Engineering (CREST HBCU-RISE) Informational Webinar

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HBCU-RISE

- Solicitation – [23-565](#)
 - Previously under 18-509
- Deadline – May 30, 2023
- Duration: 3 years
- Amount: \$1.2M
- Estimated number of awards: 5
 - Contingent on availability of funds and submission of meritorious proposals





HBCU-RISE Overarching Goals

- Part of the overarching CREST program
- Expansion of institutional research capacity of HBCUs
- Successful training of doctoral students in STEM, especially those from underrepresented groups at HBCUs





HBCU-RISE Research Areas

- [NSF supported areas](#)
- Areas of national interest
 - data science and analytics; advanced materials, manufacturing, robotics; cybersecurity; plant genetics/agricultural technologies; quantum information sciences; nanotechnology, semiconductors/microelectronics technologies; climate change and clean energy
- [CHIPS and Science Act of 2022](#) – semiconductor research
- [Industries of the Future](#) – advanced manufacturing, AI, nanotechnology, etc.
- [Understanding the Brain](#) – cross-disciplinary research to understand the full complexity of brain
- [DOE Earthshots](#) – clean energy solutions





Eligibility and Limitations – Institutional Responsibility

- Institutions - HBCUs that offer doctoral degrees in STEM
- PIs – full-time faculty appointment
- Number of Submissions
 - one active HBCU-RISE award per institution, irrespective of the area of focus
 - Proposal may be submitted if the institution has an existing HBCU-RISE award if the existing award ends before the new one begins
 - One proposal per institution
 - One proposal per PI/co-PI
- Supplements for existing awards are permitted





HBCU-RISE - Collaborative Proposals are not allowed

- Separately submitted collaborative proposals are not allowed and will be returned without review
- Collaborating institutions other than the lead institution should be treated as subawardees
- Funding should align with subawardee institution's efforts
- Total funding to subawardee institutions cannot exceed 10% of the total budget



Key Elements





HBCU-RISE Key Elements

- Unifying research focus in one of the NSF supported areas
- Synergy between education and research
- Involvement of underrepresented groups at all levels
 - Undergraduate and graduate students, post-docs, faculty
- Direct connection to host department and institution's priorities
- Internal steering committee - PI, co-PIs, and other applicable stakeholders





HBCU-RISE Key Elements

- Employ modern and relevant curricula, provide relevant research experiences to students
- Strategy for recruitment, mentoring, retention and graduation of students from underrepresented groups in STEM
 - Including women, persons with disabilities, veterans and racial and ethnic minorities
- Strategy for connections with other NSF-funded awards at the institution which are related to the proposed project's goals and scope





HBCU-RISE Key Elements

- Commitment and Sustainability
 - Leverage award to obtain additional funding from other sources
 - Academic/industry partnerships, other federal/state/local agency support
 - Commitment to long-term organizational change to increase research productivity
 - Financial and organizational sustainability and institutionalization of project activities
 - Letter of support from Provost or equivalent official





Examples of Supported Activities

- Faculty release time
- New faculty hire and start-up funding
- Faculty professional development
- Acquisition or upgrading of research equipment
- Development of advanced new curricula/courses
- Collaborative research efforts with partnering institutions/national labs
- And more....
- Alignment with proposed goals and expected outcomes is important



Proposal Preparation





Required Components – Solicitation Pages 6-9

1. Cover Sheet
2. **Project Summary – 1 page, overview, Intellectual Merit and Broader Impacts**
3. **Project Description – 15 pages, includes tables and figures, does not include references**
 1. Problem Description and Rationale
 2. Research Objectives
 3. Education and Human Resource Development Objectives
 4. Broader Impacts
 5. Management Plan
 6. Evaluation Plan
 7. Results from Prior NSF Support
4. Facilities, Equipment and Other Resources
5. Budget and Budget Justification





Required Components

1. References Cited – 5 pages
2. **Biographical Sketches – SciENcv (Oct 23, 2023)**
3. Supplementary Documents
 1. Ethics Plan – 1 page
 2. Shared Experimental Facilities – 1 page
 3. Students Mentoring Plan – 1 page
 4. Letter of Support – 2 pages
 5. Letters of Collaboration – 2 pages
 6. **Quotes for Equipment – costing more than \$25,000**
4. Single Copy Documents
 1. **Certification of Eligibility – template on pages 8-9**





Required Components – Project Summary

- Mission, vision and significance of the research
- Research focus and goals for education and broadening participation in STEM
- Intellectual Merit and Broader Impacts as separate sections





Required Components – Project Description

- Problem Description and Rationale for Selected Approach
 - Project alignment with institutional priorities and HBCU-RISE goals
 - SMART project goals – baseline data
 - Institutional support for, and financial and organizational sustainability of the project
 - Creative integration of NSF-funded awards at the institution
 - Integration of research and educational activities





Required Components – Project Description

- Research Objectives
 - Overall vision and long-term goals
 - Description of research themes and their integration with each other
 - Consider unifying research and address interdependencies, if any
 - Research plan, roles of participants and potential impacts

Provide sufficient information to assess scientific merit



Required Components – Project Description

- Education and Human Resource Development Objectives
 - Activities that support faculty and students in setting up a research agenda and progressing in their careers
 - Integration of educational and research activities
 - Use of evidence-based practices
 - Recruitment and retention of students
 - Mentoring and professional development of students and faculty

Provide sufficient information to assess intrinsic merit and potential effectiveness





Required Components: Project Description

- Evaluation Plan
 - How will you know that your project is successful?
 - External evaluator with appropriate training and expertise – objectivity is key
 - Logic model with short and intermediate term outcomes
 - Formative and summative evaluation
 - Evaluation of impact of the award on accomplishing institutional transformation
- Results from Prior NSF Support – Outcomes and impacts





Required Components

- Budget and Budget Justification
 - Alignment with project goals and activities
 - Role of subawardee
 - Equipment purchase in the last year
 - Sufficient funds for post-docs, graduate students, etc.
 - Justification and quotes for items costing more than \$25,000
 - Financial support for students (Stipends) – US citizens, nationals or permanent residents
 - Stipends should not replace other needs-based grants and scholarships
 - Funding for project personnel to attend PI meetings





Required Components – Supplementary Documents

- Ethics Plan
 - Plan for training faculty, post-docs and students in ethics, responsible conduct of research and intellectual property
- Shared Experimental Facilities
 - Maintenance and operation of facilities, organizational commitment and support, resources to ensure effective use, user fees and plans for future operations and maintenance
- Students Mentoring Plan
 - Required if funding is requested for undergraduate/graduate students
- Letters of Support and Collaborations - 2-page limit for each



Merit Review





Merit Review

Both criteria, **Intellectual Merit** and **Broader Impacts**, 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**)?





Merit Review

- 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?





Additional Solicitation Specific Review Criteria

- To what extent are the proposed activities likely to enhance institutional research capacity?
- Is there a demonstrated need for HBCU-RISE funding for the expansion of research capacity?
- Is the development of doctoral program capacity adequate?
- Is the proposed research aligned with the long-term plans of the host department(s) and the institutional mission?
- Are plans for expanding institutional research capacity as well as increasing the production of doctoral students, especially those from groups underrepresented in STEM who are U.S. citizens, nationals, or permanent residents, adequate?
- Is the strategy for the creative integration of NSF-funded awards at the institution adequate?
- Is the institutional support for and financial and organizational sustainability of the project adequate?





Review

- **Notify us of your research area to identify reviewers with appropriate expertise**
- **Propose possible reviewers for your proposals**
- **Want to review for us?**
 - **<https://www.surveymonkey.com/r/WV3QCPD>**



Questions?

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[CREST Webpage](#)

[HBCU-RISE Solicitation](#)

