

# STEM Learning and Research (STELAR) Center @ Education Development Center

National Science Foundation  
Funding for Life STEM

Monday October 24, 2016



# Who We Are

- Innovative Technology Experiences for Students and Teachers (ITEST) Program
- STEM Learning & Research Center (STELAR)
- Education Development Center
- Supporting the ITEST program and its grantees since 2003
- Available to assist those considering submitting an ITEST proposal

# What We Do

- Facilitate projects' success through **technical support** with a focus on synthesis of findings
- Inform and influence the field of STEM stakeholders by **disseminating** project findings nationally
- Deepen the impact and reach of the ITEST program by **broadening participation** in the ITEST portfolio



# Find Resources on STELAR Website



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## FEATURED POST

### ITEST PROJECTS ADDRESS NSF PRIORITIES ON YOUTH PARTICIPATION, TEACHER PD & BROADENING PARTICIPATION

Read about the new ITEST syntheses!

[Learn More »](#)



*Helping prepare a diverse, skilled, and innovative STEM workforce.*

TEXT SEARCH



[ADVANCED SEARCH](#)



**How STELAR Can  
Help You**



**ITEST Program  
Findings**



**ITEST Proposal  
Development**



**STELAR  
Materials**



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# Get Ideas for Designing ITEST Proposals

ITEST Proposal Development: <http://stelar.edc.org/proposal-development>

- + GET TO KNOW ITEST**
- + PREPARE YOUR PROPOSAL FOR SUBMISSION**
- + DEVELOP A ROBUST RESEARCH DESIGN**
- + CREATE AN EFFECTIVE EVALUATION STRATEGY**
- + CONNECT WITH PARTNERS**
- + REACH UNDERSERVED POPULATIONS**
- + DEVELOP THE WORKFORCE OF THE FUTURE**

# Explore Project Profiles

1 - 8 of 312

[Download Results](#)

All Projects A-Z

Bioscience

Computer  
Science

Engineering

Environmental  
Science

Mathematics

## Opportunities to Learn: Creative Science Through Inquiry, a Middle Grades Teaming Framework

2016 - 2019

This project will develop opportunities for students to learn creatively in science through inquiry. The project will prepare 72 middle school teachers to work with approximately 1800 students from economically disadvantaged schools who have had...

### SEARCH FOR PROJECTS

Multiple criteria within a field is an OR condition. Multiple fields are AND conditions.



DISCIPLINE(S)



PROJECT PARTICIPANT(S)



PROJECT GRADE SPAN(S)



PROJECT SETTING(S)



STATES WHERE WORK OCCURS



PROJECT STATUS

Apply Filters

# Resource Library – Publications, Curricular Materials & Instruments

1 - 8 of 629

[Download Results](#)

Events

News

Instruments

Publications

Opportunities

Curricular Materials

## STELAR ITEST PI & Evaluator Summit 2017 - Save the Date

Thursday, June 15, 2017 - 8:00am to Friday, June 16, 2017 - 5:00pm  
Event at Westin Arlington Gateway

Save the date for the 2017 STELAR ITEST PI & Evaluator Summit! The summit is an opportunity for ITEST Principal Investigators (PIs) and evaluators to come together and share successes, challenges, and lessons learned from the ITEST...

[READ MORE »](#)

## SEARCH FOR RESOURCES

Multiple criteria within a field is an OR condition. Multiple fields are AND conditions.



RESOURCE TYPE



DISCIPLINE(S)



TOPIC(S)

Apply Filters


Clear Filters



# Connect with others via the People Connector

<http://stellar.edc.org/opportunities/people-connector-directory>

People Connector Form




**STELAR People Connector Directory - Add your Information**

The purpose of this directory is to connect individuals looking for partners or tools for their ITEST proposals with those who can provide partnership or tools (e.g., a school district looking for a research methodologist, a community-based organization looking for an external evaluator).

Please complete this form if you are looking for or can provide specific expertise for ITEST proposals. The information you provide will be publicly available and accessible via the STELAR website.

\* Required

 **STELAR**  
STEM Learning and Research Center

First name \*

Last name \*

Email \*

Organization / Institution \*

City \*

State \*

Website


Listing Type \*

Select one listing type for this submission. If you are both LOOKING FOR and PROVIDING expertise, please complete this form for one, and then submit an additional form for the second.

☐ I am LOOKING FOR expertise

☐ I am PROVIDING expertise

People Connector Directory



**STELAR People Connector Directory**

File Edit View Insert Format Data Tools Form Add-ons Help All changes saved in Drive

Comments Share

fx

A B C D E F G H I J K

The purpose of the People Connector Directory is to connect individuals looking for partners or tools for their ITEST proposals with those who can provide partnership or tools (e.g., a school district looking for a research methodologist, a community-based organization looking for an external evaluator). The information provided is publicly available and accessible via the STELAR website. You can get notified of additions to the Directory by clicking on 'Tools' and 'Notification Opportunities' above (you must sign in to a google account in order to access the Tools).

Note: STELAR and NSF do not endorse the credibility or expertise of any specific individuals on the compiled list.

Timestamp	First name	Last name	Email	Organization / Institution	City	State	Website	Listing Type	Type of Expertise	Expertise Details
9/8/2014 16:42:48	Anita	Krishnamurthi	akrishnamurthi@alterschool	Alterschool Alliance	Washington	DC	<a href="http://www.alterschool.org">http://www.alterschool.org</a>	I can PROVIDE expertise	Researcher, Informal education	Please reach out if you're looking for...
9/9/2014 9:07:53	Bonnie	Swan	bonnie.swan@ucf.edu	University of Central Florida	Orlando	Florida	<a href="http://education.ucf.edu">http://education.ucf.edu</a>	I can PROVIDE expertise	Evaluator, Researcher	Program Evaluation and Educational...
9/9/2014 9:19:45	Cynthia	Tanakis	tanakis@pitt.edu	University of Pittsburgh	Pittsburgh	PA	<a href="http://www.ceac.pitt.edu">http://www.ceac.pitt.edu</a>	I can PROVIDE expertise	Evaluator, Researcher, Educator	Cynthia A. Tanakis, Ed.D., founder...
9/9/2014 12:09:42	Amy	Grack Nelson	agnelson@smm.org	Science Museum	St Paul	MN		I can PROVIDE expertise	Evaluator, Evaluation instrument	Expertise in the development and...
9/9/2014 17:00:08	Troy	Sadler	sadler@missouri.edu	University of Missouri	Columbia	MO	<a href="http://education.missouri.edu">http://education.missouri.edu</a>	I can PROVIDE expertise	Evaluator	The ReSTEM Institute: Reimagining...
9/10/2014 18:56:16	Vega	Vanessa	vanessa@rockman.com	Rockman et al.	San Francisco	CA	<a href="http://www.rockman.com">www.rockman.com</a>	I can PROVIDE expertise	Evaluator, Researcher, Educator	Can provide expertise on: evaluation...
9/16/2014 10:00:21	Kevin	Glass	glass@educationconnect.org	Center for Research and Learning	Litchfield	CT	<a href="http://www.educationconnect.org">www.educationconnect.org</a>	I can PROVIDE expertise	Evaluator	We can provide both internal and external...
9/16/2014 13:14:04	Juan	Concepcion	rubricsolution@gmail.com	Concepcion-Cards	Manati	Puerto Rico	<a href="http://www.rubricsolution.com">www.rubricsolution.com</a>	I am LOOKING FOR expertise	Evaluator, Informal education	Proven educational STEM practice...
9/17/2014 15:21:28	Kristin	Bass	kristin@rockman.com	Rockman et al.	San Francisco	CA	<a href="http://www.rockman.com">www.rockman.com</a>	I can PROVIDE expertise	Evaluator, Evaluation instrument	Rockman et al is an independent...
9/17/2014 10:39:14	Karen	Yanowitz	kyanowitz@astate.edu	Arkansas State University	Jonesboro	AR		I can PROVIDE expertise	Evaluator, Researcher	I have two ITEST grants and am ve...
9/18/2014 16:41:00	Jared	Ozga	jozga@wics.org	Wildlife Conservation Society	New York	NY	<a href="http://wics.org">wics.org</a>	I am LOOKING FOR expertise	Informal education site	Looking to forge partnerships with...
9/22/2014 15:26:32	Robinson	Robinson	ronrobinson@lewislatimer.org	Lewis H. Latimer	Chelsea	Mass	<a href="http://www.lewislatimer.org">www.lewislatimer.org</a>	I can PROVIDE expertise	Informal education site	I can provide information on how to...
10/22/2014 16:12:12	Teresa	Reagan	treagan@ncat.edu	NC A&T State University	Greensboro	NC		I am LOOKING FOR expertise	Evaluator	We are searching for an external e...
11/12/2014 21:47:15	Aaron	Parker	Aaron.T.Parker@gmail.com	University of Guam	ASAN	Guam		I am LOOKING FOR expertise	Evaluator, Formal education	Looking for help putting together a...
2/17/2015 12:30:42	Jana	Craig-Hare	janach@ku.edu	University of Kansas	Lawrence	KS	<a href="http://www.altec.org">www.altec.org</a>	I can PROVIDE expertise	Evaluator, Researcher, Evaluation instrument	
2/17/2015 16:23:36	Jaclyn	Ocuppaugh	jo2424@tc.columbia.edu	Teachers College	New York	New York		I can PROVIDE expertise	Evaluator, Researcher, Evaluation instrument	



# Stay in Touch!

**Contact us:** [stelar@edc.org](mailto:stelar@edc.org)

**Facebook:** <https://www.facebook.com/stelarctr>

**Twitter:** [https://twitter.com/STELAR\\_CTR](https://twitter.com/STELAR_CTR)

**LinkedIn:** <https://www.linkedin.com/groups/STELAR-Center>

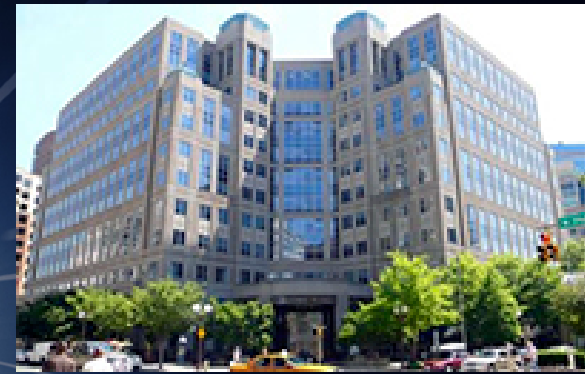
**Find resources:** <http://stelar.edc.org/>

# Today's Agenda:

- **Celeste Pea:** Dear Colleague Letter for Life STEM
- **David Haury:** Innovative Technology Experiences for Teachers and Students (ITEST)
- **David Campbell:** Discovery Research PreK-12 (DR PreK-12)
- **Julie Johnson:** Advancing Informal STEM Learning (AISL)
- **Myles Boylan:** Improving Undergraduate STEM Education: Education and Human Resources (IUSE)
- **Earnestine Easter:** Historically Black Colleges and Universities—Undergraduate Program (HBCU-UP)

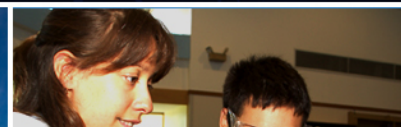


Welcome to...

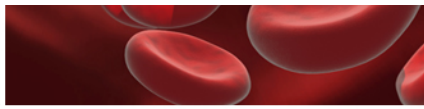


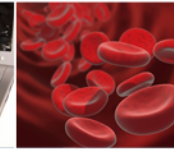
# US National Science Foundation (NSF) Life STEM DCL

Celeste Pea, Program Officer



LifeSTEM DCL • Ways to Participate •  
Individual Programs • Questions





# Life STEM DCL NSF 16-143

- **Life STEM:** Life Sciences and Biosciences
- **Focus:** Research organizations in partnership with K-12 schools
- **Targets:** K-12 or undergraduate students to encourage participation and retention of minority students in STEM careers
- **Models of Intervention:** Conducts research that creates, implements, and evaluates effective models of intervention in Life STEM



WHERE DISCOVERIES BEGIN



## Ways to Participate: 6 Possibilities

Target: Undergraduate Students

- [Improving Undergraduate STEM Education: Education and Human Resources](#) (IUSE)
- [Historically Black Colleges and Universities—Undergraduate Program](#) (HBCU-UP)

Target: K-12 Students

- [Innovative Technology Experiences for Teachers and Students](#) (ITEST)
- [Discovery Research PreK-12](#) (DR PreK-12)
- [Advancing Informal STEM Learning](#) (AISL)

Target: K-16 Students

- EAGER Proposals (see PAPPG + specific program solicitation)





WHERE DISCOVERIES BEGIN



# Guide to Preparation: 3 Documents

- [Life STEM DCL](#) : The DCL provides guidance on the scope of the topic, the target population and the kind of institutions that must be involved.
- [PAPPG](#): The *Proposal and Award Policies and Procedures Guide* provides guidelines about how to prepare any proposal to NSF.
- **Program Solicitation**: Individual solicitations provide program specifications (e.g., eligibility, funding levels, program strands). Links are provided below:
  - [Improving Undergraduate STEM Education: Education and Human Resources \(IUSE\)](#)
  - [Historically Black Colleges and Universities—Undergraduate Program \(HBCU-UP\)](#)
  - [Advancing Informal STEM Learning \(AISL\)](#)
  - [Discovery Research PreK-12 \(DR PreK-12\)](#)
  - [Innovative Technology Experiences for Teachers and Students \(ITEST\)](#)





WHERE DISCOVERIES BEGIN



# ITEST: *Innovative Technology Experiences for Students and Teachers*

- Two project types: Strategies and SPrEaD (Successful Project Expansion and Dissemination Project)
- Broadening Participation Emphasis Program
- STEM Workforce Advancement
- Diverse Learning Ecosystems (In school, out of school, virtual environments, community based, blended programs, internships, etc.)
- Can emphasize non-cognitive outcomes/21<sup>st</sup> Century Skills
- Next proposal submission date: August 9, 2017

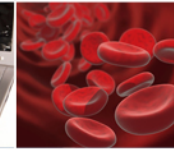


## ITEST is Particularly Interested in:

- Projects that promote awareness and interests in rapidly emerging fields, such as biotechnologies or robotics; particularly for “mid-level” careers.
- Projects that examine various forms of mentorship or the effectiveness of adult volunteers with relevant disciplinary expertise.
- Projects that engage students in emerging technologies associated with STEM professions.
- Projects that directly involve students with business and industry through partnerships.
- Projects that examine career advancement among students in the early grades.



WHERE DISCOVERIES BEGIN

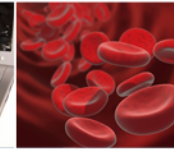


# Discovery Research PK-12

- DRK-12 supports integrated Research and Development of Resources, Models , and Tools in the service of STEM learning and learning environments.
- Goals are: enhanced student achievement in STEM, preparation for the scientific workforce, and improved science literacy.
- Focus is on the learning that takes place during the 12-14 years students are enrolled in the formal classroom learning environment.
- Program Officers have expertise in PreK-12 education and managing large grants with complex management plans.
- Deadline date: Dec. 5, 2016

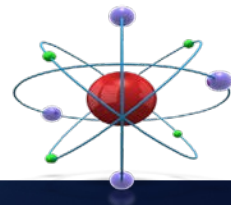


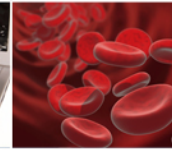
WHERE DISCOVERIES BEGIN



# AISL Program

- ❖ **Advancing** – Innovative projects that advance the field through building knowledge via innovative approaches and research.
- ❖ **Informal** – Out-of-school/Free-choice learning that makes learning lifelong, life wide, & life deep.
- ❖ **STEM** – Not just focused on science, but all of NSF-funded STEM.
- ❖ **Learning** – Learning outcomes include: interest, engagement, motivation, behavior, identity, persistence, understanding, awareness, knowledge, and use of STEM content and practices, and 21st century skills.
- ❖ **Deadline:** November 8, 2016





# Who are AISL Audiences?

- ❖ **Public Audiences** – People of all ages engaged in STEM learning in informal settings.
- ❖ **Professional Audiences** – Professionals, volunteers, and caregivers who support and mediate the learning of others.
- ❖ **Special Interest:** Underserved and Underrepresented Audiences

## What about schools?

- ❖ Teachers and students in formal education settings may be included **as secondary audiences**.
- ❖ Projects are strongly encouraged but not required to create linkages to state and national standards



*Improving Undergraduate STEM Education:*  
**EHR Vision**

- **All undergraduate students** fully engaged in their STEM learning
  - Both majors and non-majors
- **Institutions of higher education** deeply committed to the broad use of research-based teaching approaches
- **The IUSE: EHR program** recognizes the key roles of college faculty -- both as
  - Creators of innovative learning materials and teaching approaches, and
  - Implementers of promising practices





# *IUSE: EHR* **Overarching Goals**

To promote:

- 1) The development, use, and testing of instructional practices and curricular innovations that engage and improve student learning and retention in STEM, and
- 2) Community and institutional transformation that will increase opportunities for the application of highly effective STEM teaching methods.

There are two deadlines:

- Nov 2 for exploration & design proposals (up to \$300K)
- Jan 11 for development & implementation proposals (<\$3Million)



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

- Committed to enhancing the quality and capacity of undergraduate STEM education and research at HBCUs as a means to broaden participation in STEM
- Provides awards to develop, implement, and study **evidence-based** innovative models and approaches for improving the preparation and success of HBCU undergraduate students so that they may pursue STEM graduate programs and/or careers.



WHERE DISCOVERIES BEGIN

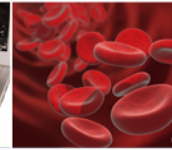


# HBCU-UP Project Types for Life STEM DCL

- *Implementation Projects:* Up to **four** years for 1st round implementation project; up to **five** years for 2nd and 3rd round implementation projects; provide support to design, implement, study and assess comprehensive institutional efforts to increase the numbers of students and the quality of their preparation.
- *Targeted Infusion Projects:* **2-3 years** targeted to meet a short-term goal to improve the quality of and make innovations in undergraduate STEM education; create or adapt innovative learning experiences and pedagogies in STEM fields.
- *Research Initiation Awards:* Up to **three** years; support a STEM faculty member at an HBCU to pursue research at the home institution, at an NSF-funded Center, at a research intensive institution or at a national laboratory.
- Due Dates: **Vary**



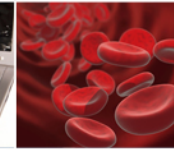
WHERE DISCOVERIES BEGIN



# ASK YOUR QUESTIONS



WHERE DISCOVERIES BEGIN



# Questions?

- Contact Celeste Pea, [cpea@nsf.gov](mailto:cpea@nsf.gov)