



# MINORITY EDUCATOR INSTITUTES (MEI)

FY 2016 ANNUAL PERFORMANCE REPORT

FUNDING SOURCE:  
OFFICE OF EDUCATION  
MUREP

LINE OF BUSINESS:  
EDUCATOR PROFESSIONAL DEVELOPMENT

MANAGING ORGANIZATION:  
STENNIS SPACE CENTER

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## **ACTIVITY DESCRIPTION**

In 2015, Texas State University was awarded a three-year NASA MUREP cooperative agreement to coordinate and facilitate MUREP Educator Institutes (MEIs) at the 10 NASA Centers beginning in Summer 2016. Eligible MEI participants include pre-service teachers and STEM education faculty members from Minority Serving Institutions (MSIs). MEI operates under the NASA Stennis Space Center Office of Education.

The purpose of this Annual Report is to summarize and document activities related to MEIs that occurred during FY 2016. FY 2016 activities include 11 week-long MEIs at the 10 NASA Centers serving 336 pre-service teachers and 65 faculty sponsors from 56 Minority Serving Institutions (MSIs).

The 2016 MEI experience consists of participation in a five-day Institute at a NASA Center and completion of 8 hours of online NASA-related professional development both prior to and after the Institute.

The MEI coordination tasks fulfilled by the MEI staff at Texas State include:

- Coordination of MEI Instructional Teams
- Participant Recruitment & Management of Participant Stipends
- Arrangements for Institute Transportation, Meals & Refreshments, Lodging, & Museum/Venue Tickets
- On-Site Support During MEIs

## **ACTIVITY GOALS**

The goals of MEI are as follows:

### ***Goals:***

- To utilize NASA's unique assets, resources and subject matter experts to serve as the foundation for a high-quality MEI experience for MSI preservice teachers and faculty sponsors;
- To collaborate with MSIs in order to solicit their advocacy of the Institute experience and to promote the opportunity to their STEM teacher candidates;
- To establish partnerships that will result in participants interacting with NASA professional resources and subject matter experts that they can utilize throughout their professional careers to enrich their teaching;
- To implement the recruitment and administrative structures necessary to enable up to 1,500 STEM educators to successfully participate in an Institute experience at one of the 10 NASA Centers across the U.S.;
- To provide a high-quality integrated Institute experience for participants comprised of meaningful and relevant pre-, during- and post- professional learning activities that support the integration of NASA resources with high-impact, culturally-relevant instructional practices; and
- To implement a well-coordinated evaluation and follow-up plan that gathers ongoing data from all stakeholders to assess project activities and their impact on participants, to support data reporting needs, to extend the learning community formed in the Institutes, and to generate lessons learned to inform future professional development practices.

## ACTIVITY BENEFIT TO PERFORMANCE GOALS

### FY 2016 Performance Goals

2.4.1: Assure that students participating in NASA higher education projects are representative of the diversity of the Nation.

Pre-service teachers and faculty sponsors were selected from Minority Serving Institutions (MSIs). Eleven (11) MUREP Educator Institutes were conducted in Summer 2016. Participants in the Institutes included a total of 336 pre-service teachers and 65 STEM Education faculty members. **The 401 total participants, representing 56 different MSIs, received 16,200 hours of face-to-face NASA professional development.**

The following tables provide information on each of the MEI sessions.

<b>Stennis MEI, June 6-10, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
Mississippi Valley State University	5	2	7
University of Texas Rio Grande Valley	5	1	6
Grambling State University	4	1	5
Jackson State University	7	2	9
Prairie View A&M University	13	2	15
<b>Total Participants</b>	<b>34</b>	<b>8</b>	<b>42</b>

<b>Goddard MEI, June 6-10, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
William Paterson University	10	1	11
Bowie State University	4	1	5
Delaware State University	2	1	3
Morgan State University	9	2	11
Essex County College	4	1	5
<b>Total Participants</b>	<b>29</b>	<b>6</b>	<b>35</b>

<b>Armstrong MEI, June 13-17, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
California State Fullerton	4		4
California State San Marcos	11	1	12
Northern Arizona University	6	1	7
California State University, Bakersfield	15	1	16
University of Arizona	7		7
Bakersfield College	1		1
<b>Total Participants</b>	<b>44</b>	<b>3</b>	<b>47</b>

<b>Johnson MEI, June 20-24, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
Huston- Tillotson University	4	1	5
Langston University	1	1	2
Northern Oklahoma College	3	1	4
Oglala Lakote College	5	1	6
Texas A&M Corpus Christi	5	1	6
Texas State University	3	1	4
University of Texas Rio Grande Valley	4	1	5
University of Texas San Antonio	5		5
University of the Incarnate Word	5	1	6
<b>Total Participants</b>	<b>35</b>	<b>8</b>	<b>43</b>

<b>Ames #1 MEI, June 20-24</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
Nevada State College	3	1	4
Salish Kootenai College	9	2	11
University of Montana	5	1	6
<b>Total Participants</b>	<b>17</b>	<b>4</b>	<b>21</b>

<b>Marshall MEI, June 20-24</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
Fort Valley State University	4	1	5
University of Arkansas	10	2	12
Harris Stowe State University	6	1	7
Alabama A&M	14	3	17
Xavier University of Louisiana	4	1	5
<b>Total Participants</b>	<b>38</b>	<b>8</b>	<b>46</b>

<b>Kennedy MEI, June 27-July 1, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
University of Puerto Rico at Mayaguez Campus	7	1	8
Broward College	7	1	8
Albany State University	3	1	4
Florida A&M University	9	2	11
Valencia College	8	1	9
Universidad Metropolitana	4		4
Savannah State University	3	1	4
<b>Total Participants</b>	<b>41</b>	<b>7</b>	<b>48</b>

<b>Langley MEI, June 27-July 1 (*Center requested that event be capped at 30 participants)</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
North Carolina Wesleyan College	9	2	11
North Carolina Central University	2	1	3
Hampton University	3		3
Norfolk State University	7	1	8
<b>Total Participants</b>	<b>21</b>	<b>4</b>	<b>25</b>

<b>JPL MEI, July 11-15, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
University of Southern California	12	1	13
University of California, Riverside.....9 (1 faculty sponsor and 8 students)	8	1	9
California State University, Dominguez Hills	4	1	5
California State University, Los Angeles	4	1	5
California State University, Northridge	13	3	16
<b>Total Participants</b>	<b>41</b>	<b>7</b>	<b>48</b>

<b>Ames #2 MEI, July 25-29, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
California State University, Fresno	3	1	4
Chaminade University of Honolulu	7	1	8
Nevada State University	5	1	6
Notre Dame de Namur University	5	1	6
<b>Total Participants</b>	<b>20</b>	<b>4</b>	<b>24</b>

<b>Glenn MEI, August 1-5, 2016</b>			
Participating Minority Serving Institutions (MSIs)	Student Participants	Faculty Participants	Total Participants
Northeastern Illinois University	3	1	4
Chicago State University	1	1	2
New York Institute of Technology	5	2	7
Bronx Community College of New York	2	1	3
Texas State University	5	1	6
<b>Total Participants</b>	<b>16</b>	<b>6</b>	<b>22</b>

2.4.2: Continue to support STEM educators through the delivery of NASA education content and engagement in educator professional development opportunities.

In addition to the 40-hour onsite Institute experience delivered at a NASA Center, each MEI participant was required to complete 8 hours of NASA-related online professional development both prior to and after attending the MEI. This PD requirement was managed through the Digital Badging System operated by the NASA STEM Educator Professional Development Collaborative (EPDC).

The 8 hours of online Pre-Institute PD consisted of:

- MEI Overview Webinar (1.5 hrs.)
- Center-specific Orientation Webinar (1.5 hrs.)
- An “Exploring NASA” Web-quest Activity (2 hr.)
- Additional NASA EPDC Webinars (3 hrs.)

The 8 hours of online Post-Institute PD consisted on:

- Comprehensive Evaluation of Institute (.5 hour)
- Reflection on Integrating NASA Content and Resources (1.0 hour)
- Center Extension Activity (1.5 hours)
- Completion of an Additional EPDC NASA Badge (5.0 hours)

**In FY 2016, the 401 MEI participants completed a total of 6,416 hours of NASA online professional development credit.**

2.4.4: Continue to provide opportunities for learners to engage in STEM education through NASA unique content provided to informal education institutions designed to inspire and educate the public.

As a part of completing the post-MEI badge, each MEI participant was assigned an extension activity (for example, teaching a NASA lesson to students and developing a reflection about what was learned in the process and how the lesson would be refined in the future). Many participants chose to deliver these lessons in an informal setting such as a community summer camps, YMCAs, or after-school programs.

2.4.5: Continue to provide opportunities for learners to engage in STEM education engagement activities that capitalize on NASA unique assets and content.

Each MEI participant left the Institute with a wide variety of NASA classroom resources to use in their classrooms. During the Institute, participants experienced their activities as learners and then engaged in focused discussions about how the activities could be implemented in their classrooms. Through this “multiplier effect,” numerous K-12 and university students will have the opportunity to experience NASA learning activities that feature NASA unique assets and content under the direction of educators who have completed the MEI experience.

## **ACTIVITY ACCOMPLISHMENTS**

- The primary accomplishments of FY 2016 included the conducting of 11 successful week-long MEIs at the 10 NASA Centers across the U.S., and the affiliated recruitment activities that yielded the 401 participants representing 56 Minority Serving Institutions.
- Major enhancements occurred this year to the MEI website (<https://www.txstate-epdc.net/nasa-mei/>). In addition to updating the dates of the Institutes, photos from each of the 2016 Institutes were included along with specific participant comments from that Institute. In addition, two videos produced at the 2016 MEIs were added as recruitment tools to the website.
- MEI was featured in presentations at a number of professional conferences and MEI recruitment materials were disseminated at exhibit booths at these conferences, including Space Exploration Educator’s Conference (SEEC); South By Southwest Education (SXSWedu), and the Consortium of State Organizations for Texas Teacher Education (CSOTTE).

## **ACTIVITY CONTRIBUTION TO ANNUAL PERFORMANCE INDICATORS (APIs)**

### **FY 2016 Annual Performance Indicators**

ED-15-1: Provide significant, direct student awards in higher education to (1) students across all institutional categories and levels (as defined by the U.S. Department of Education); (2) racially or ethnically underrepresented students, (3) women, and (4) persons with disabilities at percentages that meet or exceed the national percentages for these populations, as determined by the most recent, publicly available data from the U.S. Department of Education’s National Center for Education Statistics for a minimum of two of the four categories.

**100% MEI participants were from MSI’s in FY 2016.**

ED-15-2: Engage with at least 80,000 educators in NASA-supported professional development, research, and internships that use NASA-unique STEM content.

In FY 2016, the 401 MEI participants each engaged in:

- 40 hours of face-to-face professional development at a NASA Center
- 8 hours of Pre-Institute online professional development
- 8 hours of Post-Institute online professional

**Collectively, the 401 MEI participants in FY 2016, engaged in 22,456 hours of NASA-related professional development.**

### **ACTIVITY IMPROVEMENTS MADE IN THE PAST YEAR**

The Texas State University team built the eTouches registration site that allows for a wide range of data collection. All participants register through this site and provide information that is essential in making MEIs run smoothly. We are able to track badging information as well as necessary logistics. This site allows for the linking of evaluation data as well. A thorough look will be given to this site and adjustments for improvement will be made for the 2017 MEIs.

### **ACTIVITY PARTNERS AND ROLE OF PARTNERS IN ACTIVITY EXECUTION**

The primary purpose of having faculty sponsors attend MEI with their pre-service teachers was to enhance the university's capacity to share NASA content and resources with other students and faculty members and to develop a designated liaison who can facilitate future linkages between NASA Center and the universities. To facilitate this process, universities that participated in an MEI are asked to become members of the NASA MSI Emerging Stars Network

Emerging Stars Network members are institutions with official designations as MSIs that have:

- faculty and/or students who participate in one or more NASA professional development opportunities annually;
- an identified faculty representative who helps facilitate communication with faculty members and students about NASA opportunities and resources; and
- agreed to serve NASA EPDC in an advisory capacity on matters related to enhancing diversity in STEM teacher preparation and fostering culturally relevant STEM pedagogy.

Emerging Stars Network member institutions receive:

- a membership plaque suitable for display,
- invitational priority to participate in special events,
- listing as NASA MSI Emerging Stars Network member institutions on the MEI and NASA STEM Educator Professional Development Collaborative websites and on relevant publications, and
- priority for professional development support and NASA resources.

Below is a listing of the member institutions of the NASA MSI Emerging Stars Network, their affiliated NASA Center partners, and their faculty representatives.



MSI	NASA Center	MSI REPRESENTATIVE
Alabama A&M University	Marshall Space Flight Center	Samantha Strachan, Derrick Davis, Johanna Massey
Albany State University	Kennedy Space Center	Rhonda Porter
Bakersfield College	Armstrong Flight Research Center	TBD
Bowie State University	Goddard Space Flight Center	Jennifer Johnson
Bronx Community College	Glenn Research Center	Jerald Tsekas
Brow ard College	Kennedy Space Center	Juan Ospina
California State University Dominguez Hills	Jet Propulsion Laboratory	Cecilia Duenas
California State University Los Angeles	Jet Propulsion Laboratory	Paula Arvedson
California State University Northridge	Jet Propulsion Laboratory	Susan Belgrad, Steve Holle, Norman Herr
California State University San Marcos	Armstrong Flight Research Center	Ingrid Flores
California State University, Bakerfield	Armstrong Flight Research Center	Ron Hughes
California State University, Fresno	Ames Research Center	Ka Vang
California State University, Fullerton	Armstrong Flight Research Center	TBD
Chaminade University of Honolulu	Ames Research Center	Katrina Roseler
Chicago State University	Glenn Research Center	Karel Jacobs
Delaware State University	Goddard Space Flight Center	Sae Yeol Yoon
Essex County College	Goddard Space Flight Center	Jill Stein
Florida Agricultural and Mechanical University	Kennedy Space Center	Edith Davis, David White
Fort Valley State University	Marshall Space Flight Center	Edward Hill
Grambling State University	Stennis Space Center	Loretta (Walton) Jagers
Hampton University	Langley Research Center	TBD
Harris- Stowe State University	Marshall Space Flight Center	Statha Kline-Cherry
Huston-Tillotson University	Johnson Space Center	Jan Seiter
Jackson State University	Stennis Space Center	Gloria Miller, Antonius Caldwell
Langston University	Johnson Space Center	Randy Hunt
Mississippi Valley State University	Stennis Space Center	Candace Stevens, Raymond Williams
Morgan State University	Goddard Space Flight Center	Marciea McMillian, Kea Smith
Nevada State College, Brian Gleason	Ames Research Center	Sarah Bryans-Bongey
New York Institute of Technology	Glenn Research Center	Shiang-Kwei Wang, Hui-Yin Hsu
Norfolk State University	Langley Research Center	Arthur Bowman
North Carolina Central University	Langley Research Center	Solomon Abraham
North Carolina Wesleyan College	Langley Research Center	Danielle Madrazo, Gail Stafford
Northeastern Illinois University	Glenn Research Center	Hyewon Kim
Northern Arizona University	Armstrong Flight Research Center	Joelle Clark
Northern Oklahoma College	Johnson Space Center	Kristi Orr
Notre Dame de Namur University	Ames Research Center	Stephanie Demaree
Oglala Lakote College	Johnson Space Center	Dorothy Gillespie
Prairie View A&M University	Stennis Space Center	Cheri Lewis, Beverly Roberts
Salish Kootenai College	Ames Research Center	Amy Burland, Michael Stone

Savannah State University	Kennedy Space Center	Kisha Cunningham
Sinte Gleska University	Johnson Space Center	Dorothy Gillespie
Texas A&M Corpus Christi	Johnson Space Center	Tonya Jeffery
Texas State University	Johnson Space Center	Kristina Collins, Beth Bos
Universidad Metropolitana	Kennedy Space Center	TBD
University of Arizona	Armstrong Flight Research Center	TBD
University of Arkansas, Vinson Carter	Marshall Space Flight Center	Michael Daugherty
University of California, Riverside	Jet Propulsion Laboratory	Catherine Lussier
University of Montana	Ames Research Center	Georgia Cobbs
University of Puerto Rico at Mayaguez Campus	Kennedy Space Center	Rebeca Orama
University of Southern California	Jet Propulsion Laboratory	Fred Freking
University of Texas Rio Grande Valley	Johnson Space Center	Gus Valencia, Omar Elizondo
University of Texas San Antonio	Johnson Space Center	TBD
University of the Incarnate Word	Johnson Space Center	David Campos
Valencia College	Kennedy Space Center	Elise Gruber
William Paterson University	Goddard Space Flight Center	Djanna Hill
Xavier University of Louisiana	Marshall Space Flight Center	Rachel Davis-Haley

## **REFERENCES**

*NASA Education Implementation Plan 2015–2017*. (2015). Retrieved August 10, 201, from [https://www.nasa.gov/sites/default/files/atoms/files/nasa\\_education\\_implementation\\_plan\\_2015-2017.pdf](https://www.nasa.gov/sites/default/files/atoms/files/nasa_education_implementation_plan_2015-2017.pdf)