National Aeronautics and
Space Administration

NASA

SPACE GRANT
FALL MEETING

PROGRAM UPDATES

OCTOBER 2020

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

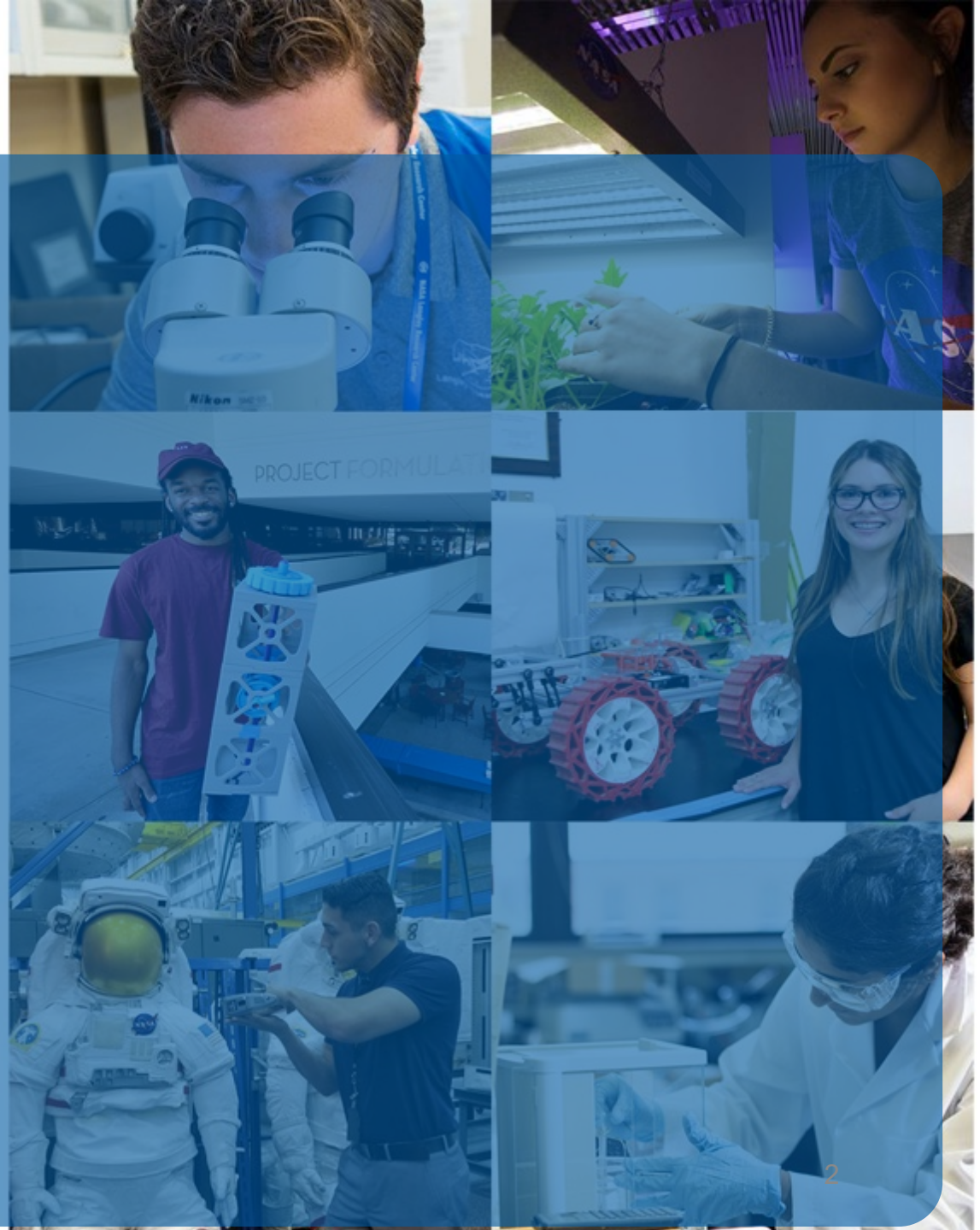
Part I: STEM Engagement Update

NASA Updates

- Economic Impact Report

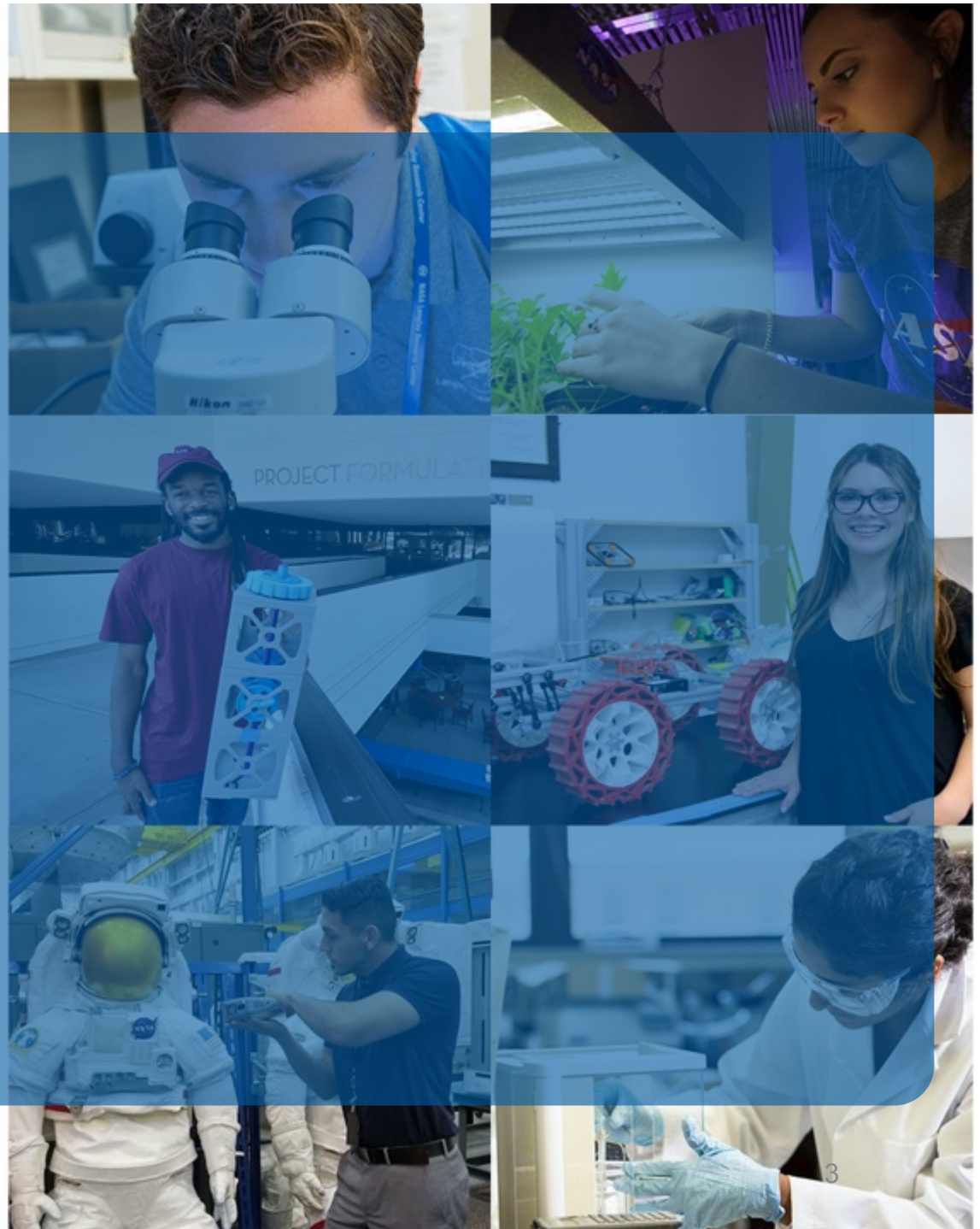
STEM Engagement Updates

- COVID-19 Response
- Agency STEM Engagement Strategy
- OEPM 2.0 Update
- Artemis & STEM Engagement
- STEM Engagement Program Updates
- Broadening Student Participation Efforts
- NASA STEM: Better Together Conference Series



Part II: Space Grant Office Report Out

- Space Grant Strategic Direction
- COVID-19 Updates
- Internships
- Award Updates
  - Artemis Student Challenges
- Solicitation Updates
- Administrative Updates
- Broadening Participation Discussion
- Questions



Taking Your Questions

Ask Questions Using:

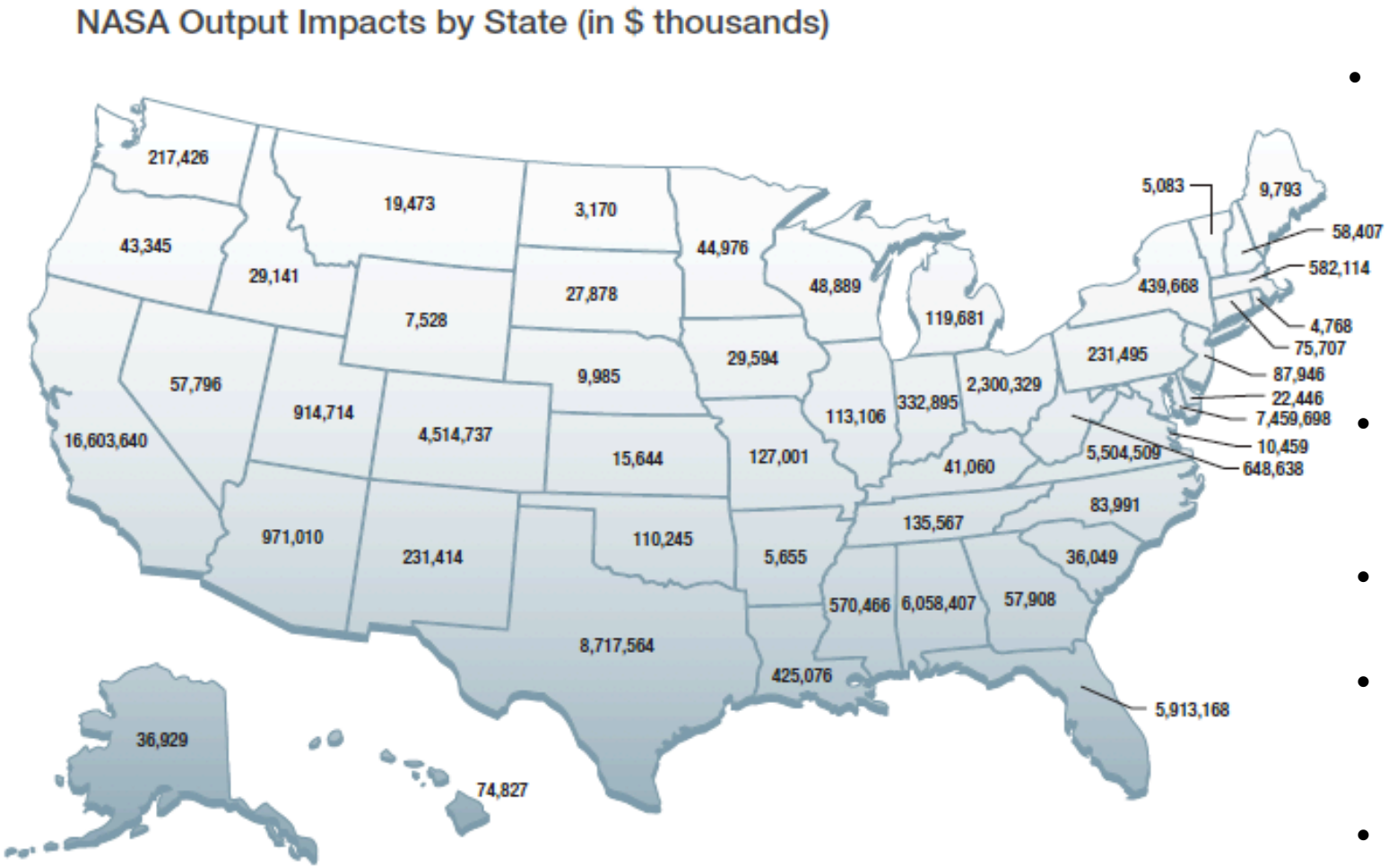
http://go.nasa.gov/3IjGUmq

Don't forget to vote responses up!

NASA Updates

Questions? http://go.nasa.gov/3ljGUmq

NASA's Economic Impact Report



- Highlights how NASA's federal funding has touched each state as the agency strives to meet its mission's objectives.
- Generated a total economic output of more than $64 billion
- Supported more than 312,000 jobs
- Resulted in nearly $7 billion in federal, state, and local tax revenues
- The summary report can be found here, and the full report can be found here.

OFFICE OF STEM ENGAGEMENT UPDATES

Questions? http://go.nasa.gov/3ljGUmq

Intersection of Key Drivers for NASA STEM Engagement Priorities

COVID-19

- Significant impacts on students and their families
- Emerging needs for virtual learning opportunities and support
- Near-term (and likely long-lasting) effects on our nation's educational system

Social justice movement

- Focus on equity, diversity and inclusion
- Spotlight on the clear and long-standing need for increased diversity in STEM

Newly revised Strategy for STEM Engagement

- New Strategic Goal devoted to ***attracting*** students to STEM
- Enhanced attention to ***diversity and inclusion*** in the pipeline
- Additional design principle on ***outcomes***

NASA STEM Engagement Enterprise Core Values

SAFETY

NASA's constant attention to safety is the cornerstone upon which we build mission success

TEAMWORK

NASA is committed to fostering equal opportunity, collaboration, continuous learning, and openness to innovation and new Ideas.

EXCELLENCE

NASA is committed to nurturing an organizational culture in which individuals make full use of their time, talent, and opportunities to pursue excellence.

INTEGRITY

NASA is committed to an environment of trust, built upon honesty, ethical behavior, respect and candor.

+

DIVERSITY & INCLUSION

OSTEM operates with NASA's Core Values with emphasis on intentional and strategic approaches to foster equal and equitable access across teams and customers.

NASA Core Values + Diversity and Inclusion

NOTABLE FY2020 ACCOMPLISHMENTS: PANDEMIC RESPONSE

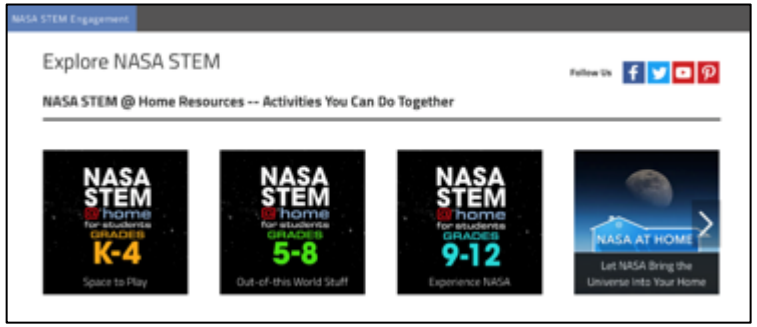
Transition of Student Activities -- Meeting Students Where They Are

- Conducted extensive re-planning of >500 activities March 10 – August 31

NASA STEM@Home

- Created and deployed new website to provide students and families educational activities that can be done at home

- K-4 activities range from a Moon habitat and edible spacecraft, to science-themed puzzles, to rockets
- Grades 5-8 and 9-12 involve more self-directed learning



Rapid Transition to Virtual Internship Program

- More than 1,600 students participated in OSTEM's first all virtual Summer 2020 internship program, compared to less than 2,000 interns who participated in OSTEM's on-site internships in 2019. Students from every state and Puerto Rico participated in Summer 2020.
- Fall 2020 virtual internship program placed 495 interns which shows a 66% increase in the number of interns over Fall 2019 and 44% are female

Communications intern Cynthia Zhang writes articles from home while her little brother looks on.
Credits: NASA

Teleworking from Phoenix, Arizona, Josh K. Smith sits in a workspace decorated with NASA memorabilia.
Credits: NASA

NOTABLE FY2020 ACCOMPLISHMENTS: PANDEMIC RESPONSE

New solicitation for Informal Education Institutions

- NextGen STEM's NASA Teams Engaging Affiliated Museums and Informal Institutions (TEAM II) Remote Opportunity Rapid Response reviewing proposals from informal education institutions
- Selected proposals will offer innovative remote- or distance-learning opportunities capable of reaching a diverse set of students (K-12) with relevant NASA content with focus on minimizing the inequities faced by communities without access to information and communication technology

Impacts to NASA STEM Engagement Awards Execution

- Moderate impacts on funded grant awards and planned research (university and lab closures)
- OSTEM has delayed/deferred research deliverables in order to accommodate COVID-19 adjustments
- Will assess FY21 as the pandemic continues

NASA STRATEGY FOR STEM ENGAGEMENT 2020-23

The newly revised NASA Strategy for STEM Engagement 2020-2023 serves as a roadmap to frame and guide the agency's work to attract, engage and educate students and to support educators and educational institutions over the next 3 years.

Student Beneficiaries of NASA's STEM Engagement Portfolio


Elementary


Middle School


High School


Undergraduate


Graduate

STEM engagement is comprised of a broad and diverse set of programs, projects, activities and products developed and implemented by HQ functional Offices, Mission Directorates and Centers.

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

NASA Strategy for STEM Engagement 2020-23

1

STRATEGIC GOAL 1: Create **unique opportunities** for a diverse set of students to contribute to NASA's work in exploration and discovery.

OBJECTIVES:

1.1 Provide student work experiences that enable students to contribute to NASA's missions and programs, embedded with NASA's STEM practitioners.

1.2 Create structured and widely-accessible experiential learning opportunities for students to engage with NASA's experts and help solve problems that are critical to NASA's mission.

2

STRATEGIC GOAL 2: Build a **diverse future STEM workforce** by engaging students in authentic learning **experiences** with NASA's people, content and facilities.

OBJECTIVES:

2.1 Develop and deploy a continuum of STEM experiences through authentic learning and research opportunities with NASA's people and work to cultivate student interest, including students from unrepresented and underserved communities, in pursuing STEM careers and foster interest in aerospace fields.

2.2 Design the portfolio of NASA STEM engagement opportunities to contribute toward meeting Agency workforce requirements and serving the nation's aerospace and relevant STEM needs.

3

STRATEGIC GOAL 3: Attract diverse groups of students to STEM through learning opportunities that **spark interest** and **provide connections** to NASA's mission and work.

OBJECTIVES:

3.1 Attract a broad and diverse set of students to STEM through targeted opportunities and readily available NASA STEM engagement resources and content.

3.2 Foster student exposure to STEM careers through direct and virtual experiences with NASA's people and work.

What's New:

- New Strategic Goal 3 focused on ***attracting*** students to STEM
- Increased emphasis on ***diversity and inclusion*** with focus on increasing and broadening participation
- Clear ***target beneficiary strategies*** aligned to achieve strategic objectives.
- Cross-cutting strategies to drive ***scalability and accessibility*** and to capitalize on NASA's STEM workers as role models.
- Additional Design Principle focused on ***outcomes and metrics***.

FY 21/22 STEM Engagement Priorities

Priority 1: Higher Ed: Focus on increasing diversity and broadening participation in higher education challenges and competitions.

- Alignment to the NASA Strategy for STEM Engagement:
  - Strategies We Will Employ: Higher Education 2. Create challenges, competitions and other transdisciplinary experiential learning opportunities to enhance STEM student studies

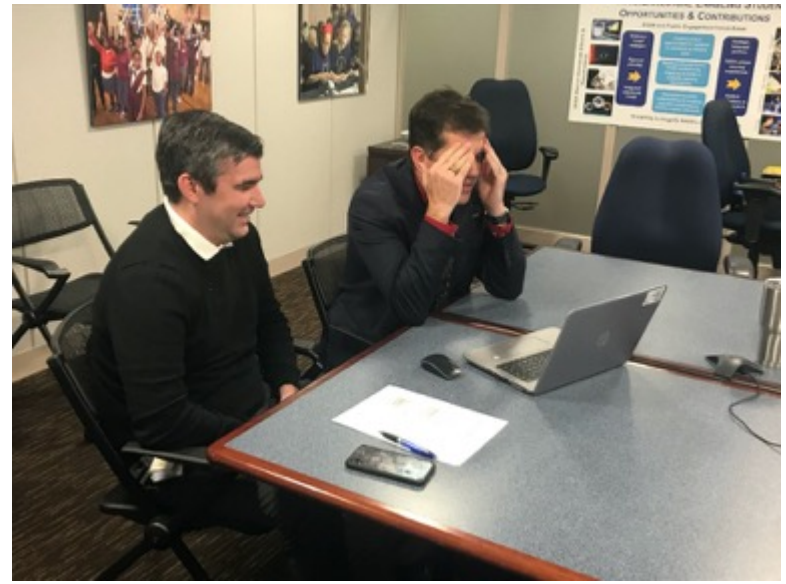
Priority 2: Pre-College: Focus on attracting diverse groups of pre-college students to NASA STEM, with a strategic approach toward a continuum of NASA STEM experiences.

- Alignment to the NASA Strategy for STEM Engagement:
  - Strategic Goal 3: Attract diverse groups of students to STEM through learning opportunities that spark interest and provide connections to NASA's mission and work.
    - Objective 3.1 Develop and deploy targeted opportunities and readily available NASA STEM engagement resources and content, to attract students to STEM.

Priority 3: Agency STEM Engagement: Focus on STEM Engagement strategies for agency Level One mission milestones.

OEPM 2.0 Update: OSTEM Gateway

- Work continues to progress on a replacement system for OEPM
- The system will not be used for FY2020 data collection, but will collect all FY21 data
- We're reaching out to several Consortia to serve as user-case testers to provide OSTEM with invaluable first-person experiences
    - Tentative Date: Late October 2020
- Once it's operational, the system can be used for national scale programs – a single application site that would transfer relevant metrics to reporting system
- Application, registration and reporting system for performance management of OSTEM investments



ARTEMIS & STEM ENGAGEMENT

Questions? http://go.nasa.gov/3ljGUmq

NASA's Artemis Plan

NASA Publishes Artemis Plan to Land First Woman, Next Man on Moon in 2024

"With bipartisan support from Congress, our 21st century push to the Moon is well within America's reach… As we've solidified more of our exploration plans in recent months, we've continued to refine our budget and architecture. We're going back to the Moon for scientific discovery, economic benefits, and inspiration for a new a generation of explorers. As we build up a sustainable presence, we're also building momentum toward those first human steps on the Red Planet."

– NASA Administrator Jim Bridenstine

ARTEMIS K – 12 STEM ENGAGEMENT FRAMEWORK

STEM Engagement Goal 3: Attract diverse groups of students to STEM through learning opportunities that **spark interest** and **provide connections** to NASA's mission and work.

Student Engagement Across the Ecosystem

In School | **At Home** | **In the Community**

Key Features for Uncertain Times

- Activate National Networks
- Emphasize Diversity and Inclusion
- Flexible Design
- Virtual Components
- Accessibility
- Opportunities that Stand out in the Crowd

Informal Collaborations | **Formal Partnerships** | **Competitive Awards**

Artemis Toolkit
- Thematic Units
- Lessons
- Activities
- Model Camps

Student Challenges
- Essay Contest
- Design Competitions

Educator Support
- Webinars
- Digital Badges
- Virtual Conferences

Student Events
- NASA STEM Stars
- Scientist and Engineer Connections
- Special Events

Education Media
- Apps and Games
- Simulations
- Streaming Video and TV

Engage National Student and Educator Networks in Artemis

NASA's Facilitator Networks

Space Grant
52 Consortia of University, Industry and K-12. Annual serves 450K K-12 students

Museum Alliance
Network of 1000 institutions

Educator PD Network
Network of 30,000 educators participating in training and support

Agency Efforts

TEAM II Awardees
15 Active projects, new awards anticipated in FY 20 and 21

Astrocamp
Supports to summer programs in 12 states reaching 10,000 students

MUREP Aerospace Academy
13 awardees serving 30K students in sustained programs. New awards anticipated in FY 21

Sample Partners

Million Girls Moonshot
New effort intended to engage 1M girls in engineering by 2030

U.S. Department of Education

21CCLC
Formula grant for summer and afterschool reaching 4M students each year

U.S. Department of Education

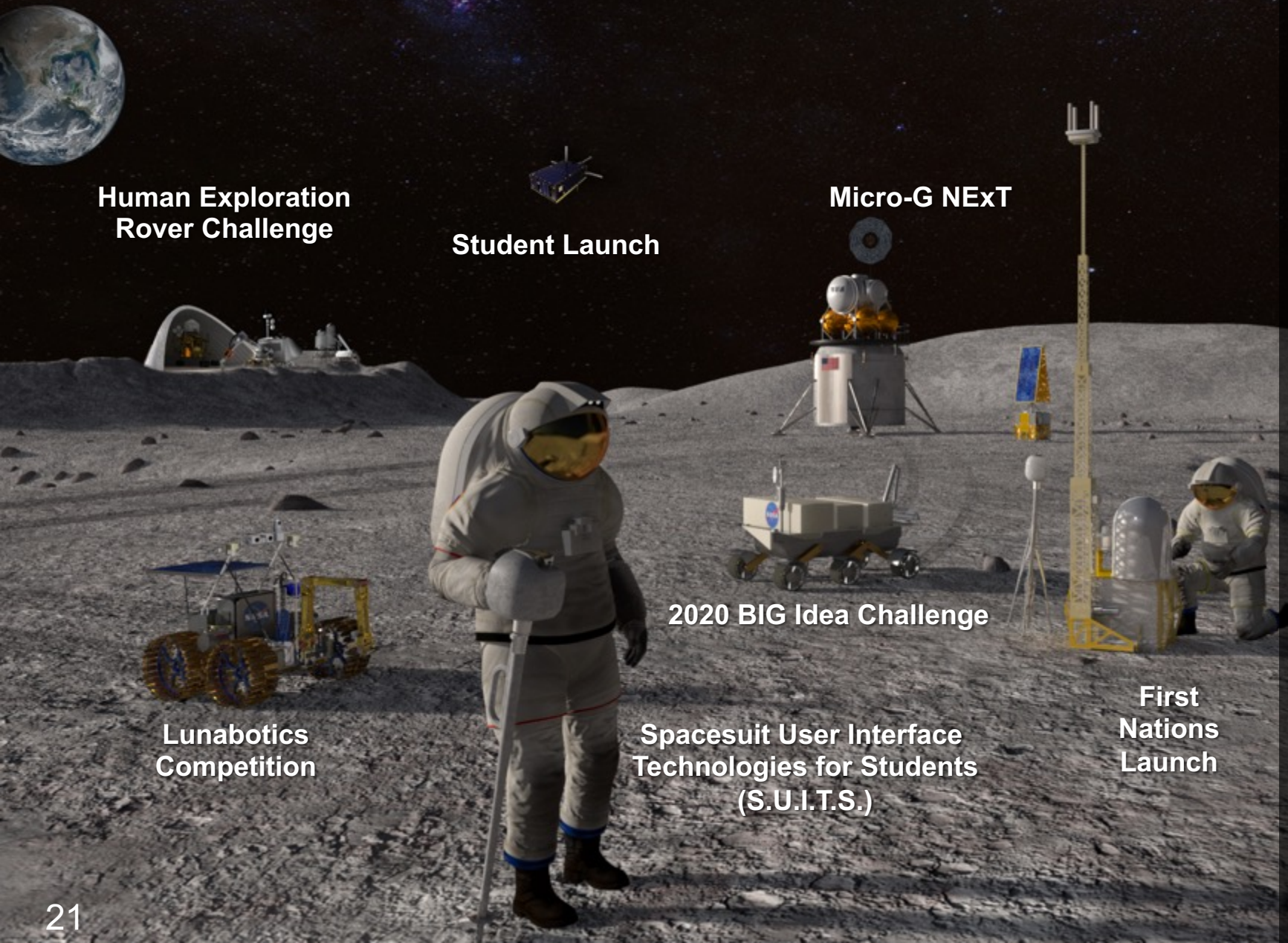
Upward Bound
Pre-college programs conducted by Universities to prepare students for college entrance

Imagine leading a one week expedition to the Moon's South Pole. Tell us about the astronauts in your Moon pod crew and the technology you would leave behind to help future explorers!

Open to K-12 Students in the U.S. – Full Challenge Details: www.futureengineers.org/artemismoonpodessay

CHALLENGE LAUNCH	ENTRIES CLOSE	SEMIFINALISTS ANNOUNCED	FINALISTS ANNOUNCED	FINALIST INTERVIEW	WINNERS ANNOUNCED
16 SEPTEMBER 2020	17 DECEMBER	17 MARCH	07 APRIL	29 APRIL	19 MAY 2021

Artemis Student Challenges



Human Exploration Rover Challenge
Create a vehicle designed to traverse the simulated surface of another world

Micro-g NExT
Design, build and test a tool or device to address a current space exploration challenge

Spacesuit User Interface Technologies for Students
Design and create spacesuit information displays within an augmented reality environment

First Nations Launch
Build and launch class K high-powered rockets

BIG Idea Challenge
Design lunar dust mitigation systems that demonstrate technology systems needed for exploration and science

Student Launch
Research and compete and experience exploration to support the Space Launch System

Lunabotics
Build a robot to simulate an off-world lunar mining mission

ARTEMIS

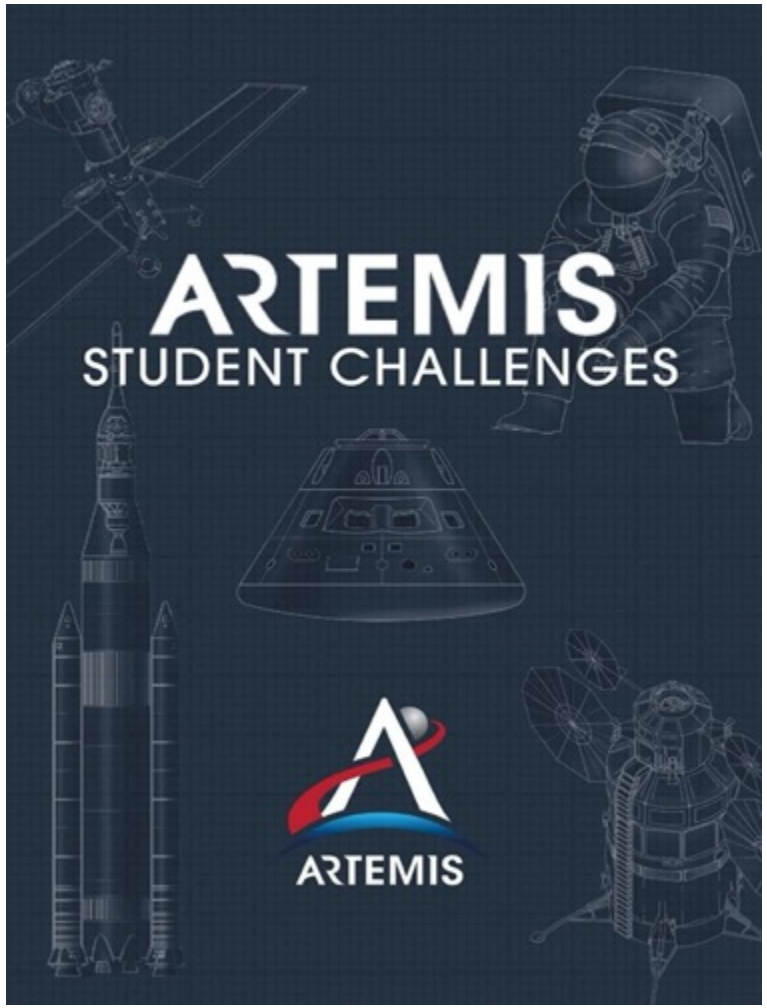
stem.nasa.gov/artemis

MISSION DIRECTORATE MATCHING

OSTEM, in a cost-matching partnership with **HEOMD, STMD, SMD and NASA's Chief Economist** awarded almost **$2.4 million** to six Space Grant Lead Institutions to advance the reach of current and future Artemis student challenges.

The solicitation was formulated to enable interested undergraduate students, **spanning the entire nation** to be inspired and prepared to participate in Artemis.

These awards will directly contribute to **NASA's mission**, the **Office of STEM Engagement's priorities**, and specifically, **Artemis**.



STEM Engagement Program Updates

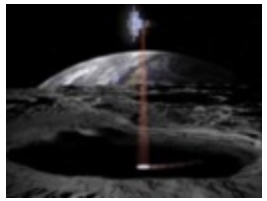
Questions? http://go.nasa.gov/3ljGUmq

Greater Focus on Program Collaboration and Efficiencies

NASA's Thematic Areas








Space Grant

- National network of 52 Consortia with 850 Affiliate members
- Stimulates cooperative programs among universities, industry, federal/state/local governments
- Encourages interdisciplinary education and research programs
- Incorporates State priorities, needs, and goals

Established Program to Stimulate Competitive Research (EPSCoR)

- 27 eligible jurisdictions (states and territories)
- Contributes to development of research infrastructure and capabilities
- Fosters partnerships between NASA research entities, industry, and academic institutions
- Incorporates state priorities, needs, and goals

Minority University Research & Education Project (MUREP)

- Limited to Minority Serving Institutions (MSI)
- Increases retention of underserved and underrepresented groups in STEM
- Enhances infrastructure at MSIs
- Portfolio with 7 funded elements

Next Generation STEM (NextGen STEM)

- Informal education and K-12 STEM engagement initiatives aligned to mission priorities
- Richer, more comprehensive STEM engagement opportunities
- NASA's Museum Alliance

STEM Engagement Beneficiaries

K-Elementary School

Middle School

High School

Undergraduate

Graduate

24

FY2020 Highlights

Program Awards

- Space Grant **Independent evaluation**, awarded to University of Alaska, Fairbanks and New Mexico State University
- EPSCOR bolstered mission-driven model to fund **75+ R&D awards** to universities in contributing to NASA needs
- Use of **planning grants** by MUREP
  - Partnership with NSF INCLUDES to explore how **building coalitions** can broaden participation in engineering
  - Partnership with STMD to **build MSI capacity** to better understand, propose to and implement STMD research opportunities

COVID-19 Response

- **Individual engagement** of every OSTEM PI at a regular cadence
- TEAM II Remote Opportunity Rapid Response solicitation with a focus on **bridging the digital divide**; seven awards totaling approximately $1M
- Rapid response by NGS with **NASA STEM@Home** content, virtualization of events, student challenges, and educator training

Strengthening Collaboration with Mission Directorates

- **Artemis Student Challenges**
- Launch of **ISS 20th** Celebrating Station Science in Aug 2020; **Crew-1** STEM Toolkit in Sept 2020; **Mars 2020 STEM** Toolkit
- NGS rebranding of Aeronautics MD focus to **Aeronaut-X** to inspire careers in aeronautics
- EPSCoR's planned solicitation for **ISS and Low Orbital Flight Opportunity** expected in September 2020; **R3 solicitation** expected in late Oct

Mission Directorate Successes in FY2020

Over $1M investment from STMD and OSTEM

Artemis Student Challenges represent $2.4M of cost share awards with STMD, HEOMD, SMD and Chief Economist

Virginia-led pilot to bring Consortia together with NASA Aeronautics experts that touched the entire Nation

Continued collaboration with NASA's OGC that focuses on Space Law with interns at 3 NASA Centers in Summer 2020

BIG IDEA CHALLENGE

The Game Changing Development program from NASA's Space Technology Mission Directorate partnered with the Office of STEM Engagement to fund unique concepts that address near-term capability requirements to support exploration of permanently shadowed regions in-and-near the Moon's Polar Regions.

More opportunities for high-fidelity concept development, and student participation in NASA's missions by leveraging the vast network of the Space Grant Consortia spanning every state, Puerto Rico, and the District of Columbia.

2020 BIG IDEA CHALLENGE FINALISTS:

- **Arizona State University in Tempe**
- **Colorado School of Mines in Golden with the University of Arizona in Tucson**
- **Dartmouth College in Hanover, New Hampshire**
- **Massachusetts Institute of Technology in Boston**
- **Michigan Technological University in Houghton**
- **Northeastern University in Boston**
- **Pennsylvania State University in State College**
- **University of Virginia in Charlottesville**

UPDATES:

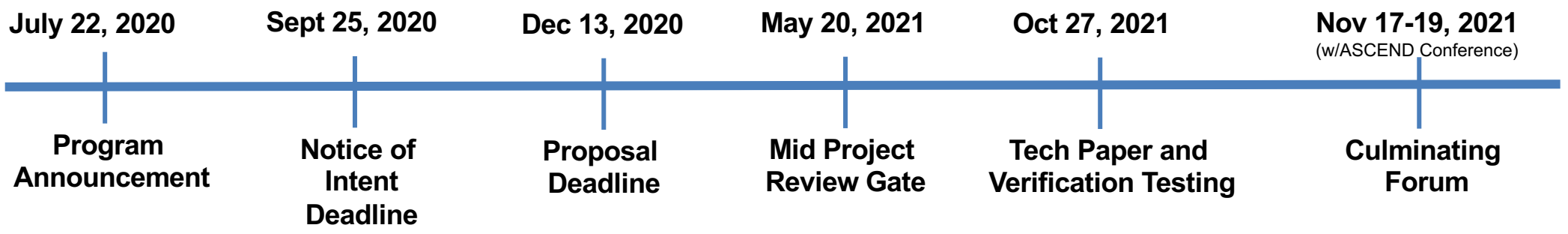
- All teams who passed mid-point review have received their second stipend from Space Grant
- Final projects extended, new due date is January 2021

FY21 BIG IDEA CHALLENGE "THEME" – LUNAR DUST MITIGATION

The challenge is to develop active and passive dust mitigation (or dust tolerant) materials and technologies to be used in or on lunar architecture elements and supporting equipment and infrastructure for future lunar missions including, but not limited to:

• Spacesuits • Habitats volumes • Surface Equipment • Landers

PROPOSED TIMELINE



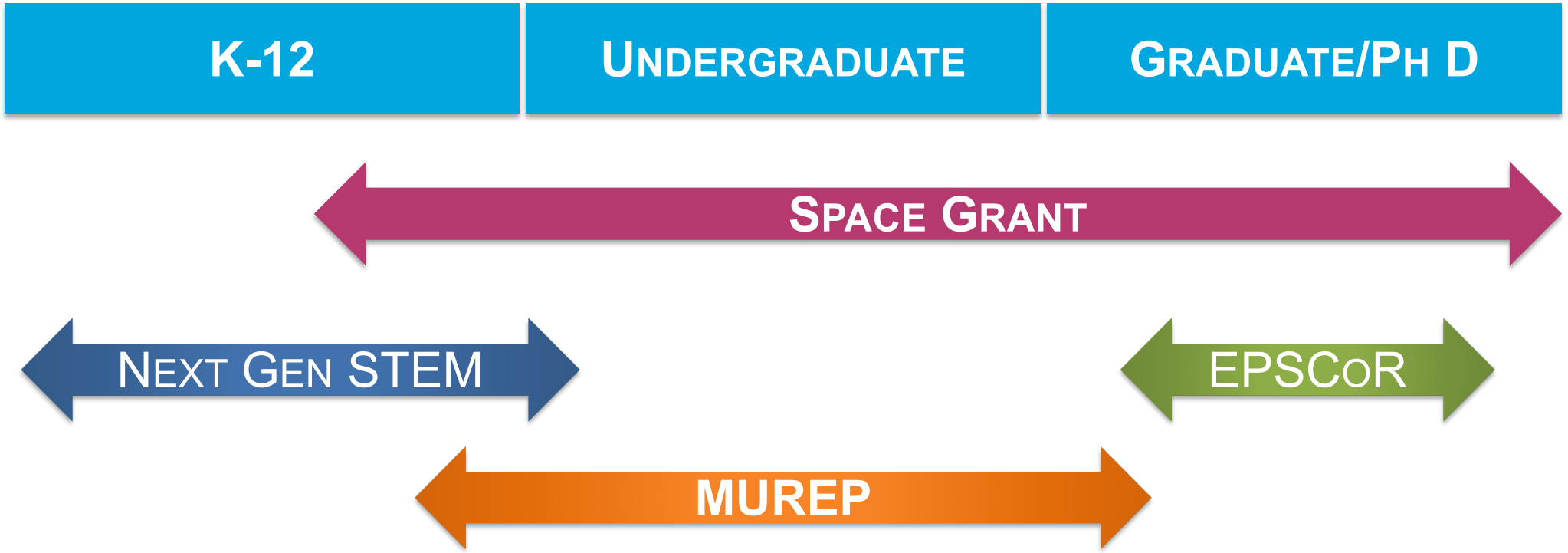
INSPIRE-ENGAGE-EDUCATE-EMPLOY
The Next Generation of Explorers

STEM Engagement Program & Broadening Student Participation

Questions? http://go.nasa.gov/3ljGUmq

STEM Engagement Program

OSTEM Beneficiaries



OSTEM beneficiaries span K-20, not only from programmatic perspective, but from a perspective of building pathways to broaden student participation.

OSTEM's Efforts to Broaden Student Participation

Where Are We Now?

- Setting **targeted goals** for our awardees
  - Space Grant
  - White House Initiatives for HCBUs
- **Engagement** and **relationship building** with MSIs
- **Infrastructure** and **research** capacity building
- **Partnering** with other Federal Agencies (through FC-STEM and NSF)
- FY20 **performance assessment** and **evaluation studies**
- Focus on **diversity recruitment** and **selection of internships**

OSTEM's Efforts to Broaden Student Participation

Where Are We Headed?

- Reexamining existing efforts
- Strategically **leveraging partners, networks and influencers** to expand reach to underrepresented/ underserved students
- Reevaluating **target goals** and developing a **formalized feedback process**
- **Expanding partnerships** with other federal agencies (NSF, DoD, ED, NOAA)
- FY 21 **performance assessment** and **evaluation studies**
- **Leading agency-wide** approach through SEC Working Group on **Broadening Student Participation**

NASA STEM
BETTER TOGETHER

CONFERENCE SERIES

Questions? http://go.nasa.gov/3ljGUmq

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

NASA STEM Better Together Conference Series

NASA STEM
BETTER TOGETHER
FOR STAKEHOLDER SUCCESS

February 1-2, 2021
Core Hours 10:00 am – 6:00 pm EST

- Open to **Internal NASA Participants and OSTEM grantee PI teams**
- Engage with the OSTEM stakeholders to build synergy to carry out NASA's vision for our next generation of explorers

NASA STEM
BETTER TOGETHER
FOR MISSION SUCCESS

Spring 2021

- Open to **Internal NASA Participants and OSTEM supported research-focused PIs**
- Engage in technical multi-center research and design technical interchange discussions with NASA mission critical personnel to forge new and strengthen

NASA STEM Better Together Conference Series

Be a voice in critical conversations with colleagues across the country as we focus on our OSTEM PIs and your success in STEM:

- ❑ Opening and Closing Session Keynote Speakers
- ❑ Hear directly from NASA Leadership
- ❑ Special Interest Break-out Sessions
- ❑ Access Content via Live and Pre-Recorded Sessions
- ❑ Virtual Booths and Lounge Areas for Sharing Knowledge and Networking
- ❑ Explore the platform through interactive games

February 1 – 2, 2021

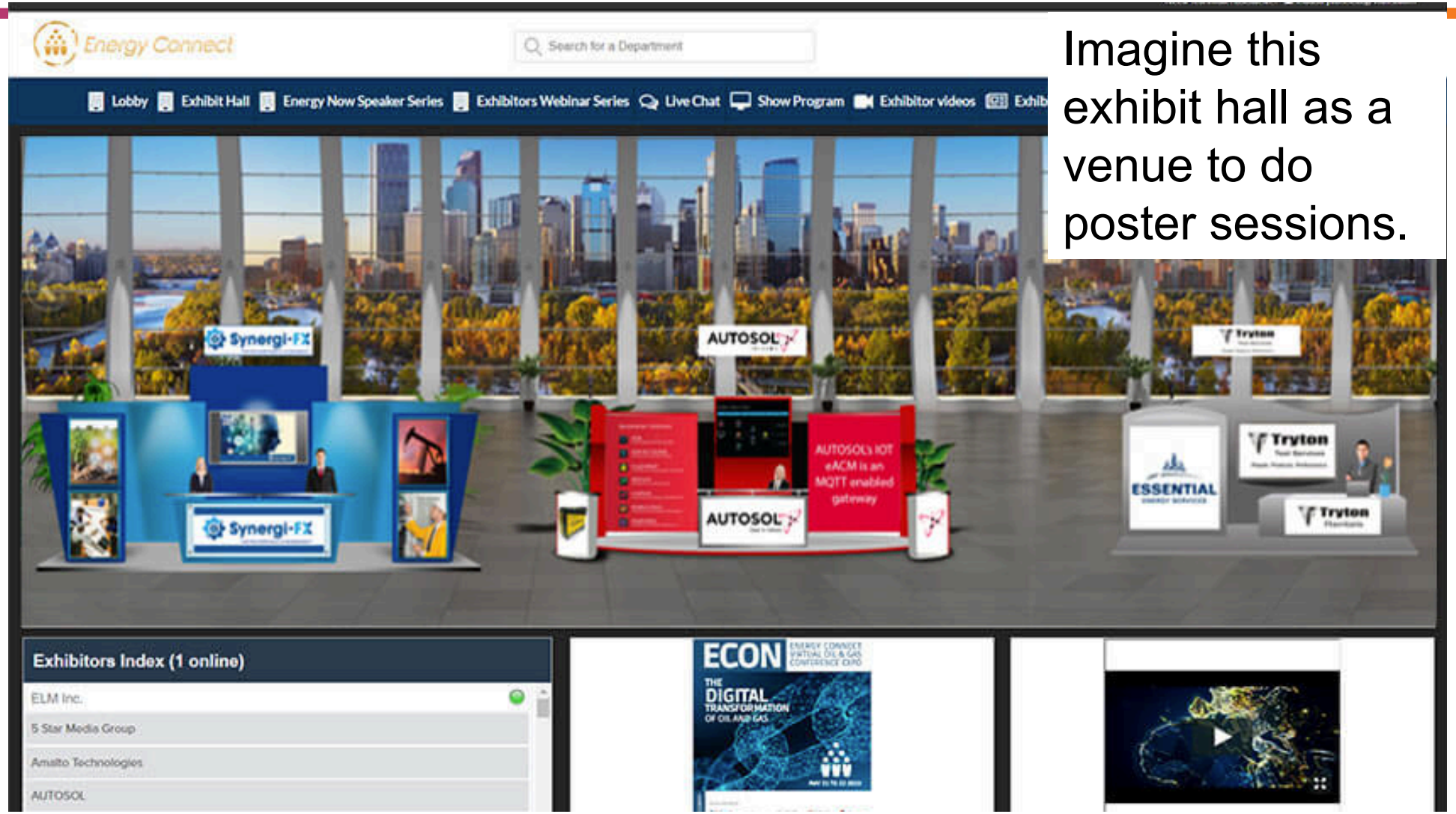
10:00 a.m. – 6:00 p.m. EST

With the use of this virtual platform, this conference is not limited by attendee numbers.

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

vFairs: Four Areas to 'Explore'

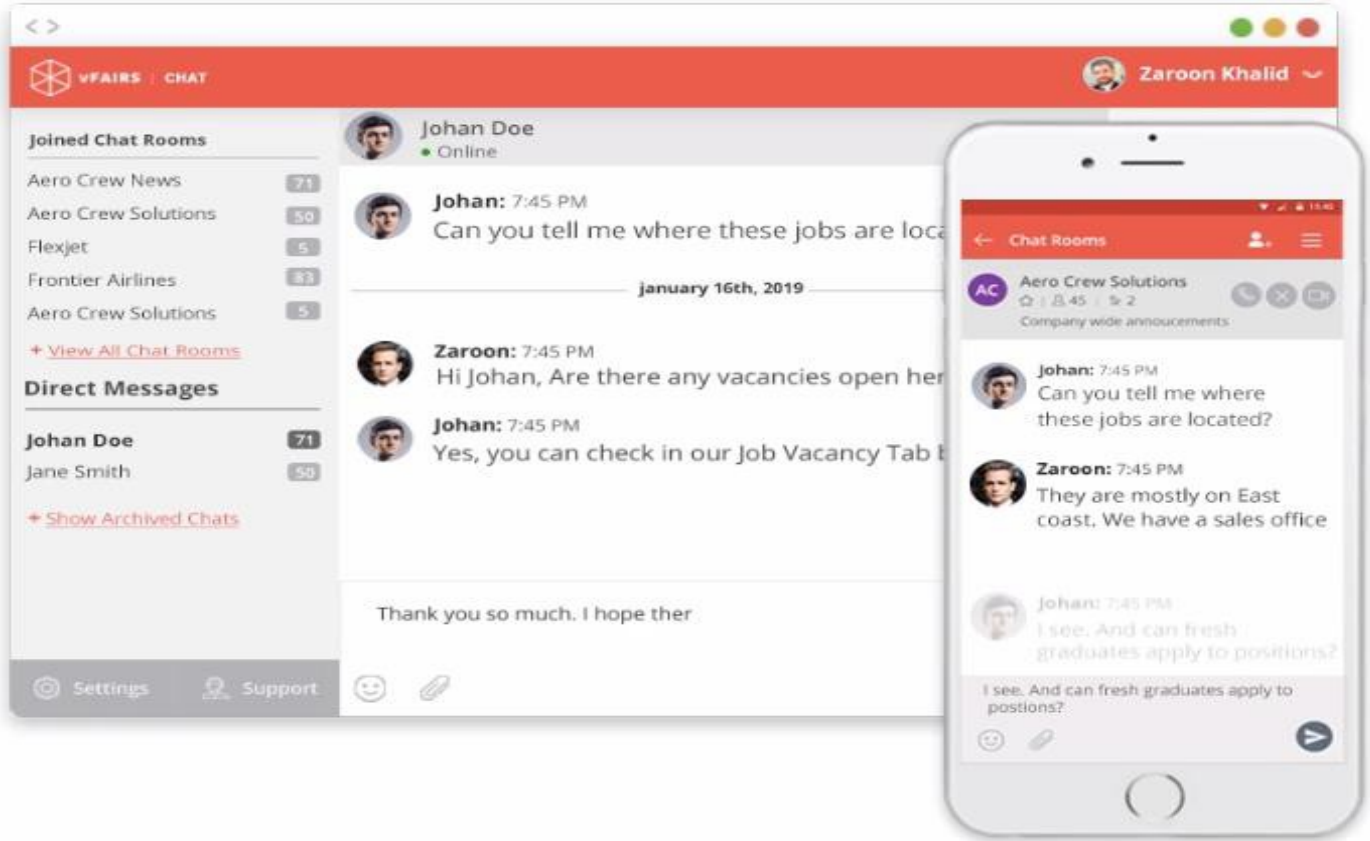
INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers



Imagine this exhibit hall as a venue to do poster sessions.

MULTIPLE WAYS TO INTERACT!

Attendees can start meaningful conversations with attendees using **text, audio and video chat, in a 1:1 chat or group chat setting**



vFAIRS

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

NASA STEM Better Together For Stakeholder Success

SAVE THE DATE!

Join **NASA STEM** for its
First Captivating Virtual Conference Experience
on the innovative Vfairs platform

February 1-2, 2021
10:00 a.m. – 6:00 p.m. EST

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

WANTED: SPACE GRANT SUCCESS STORIES

2020 NASA STEM Engagement Highlights planning is underway!

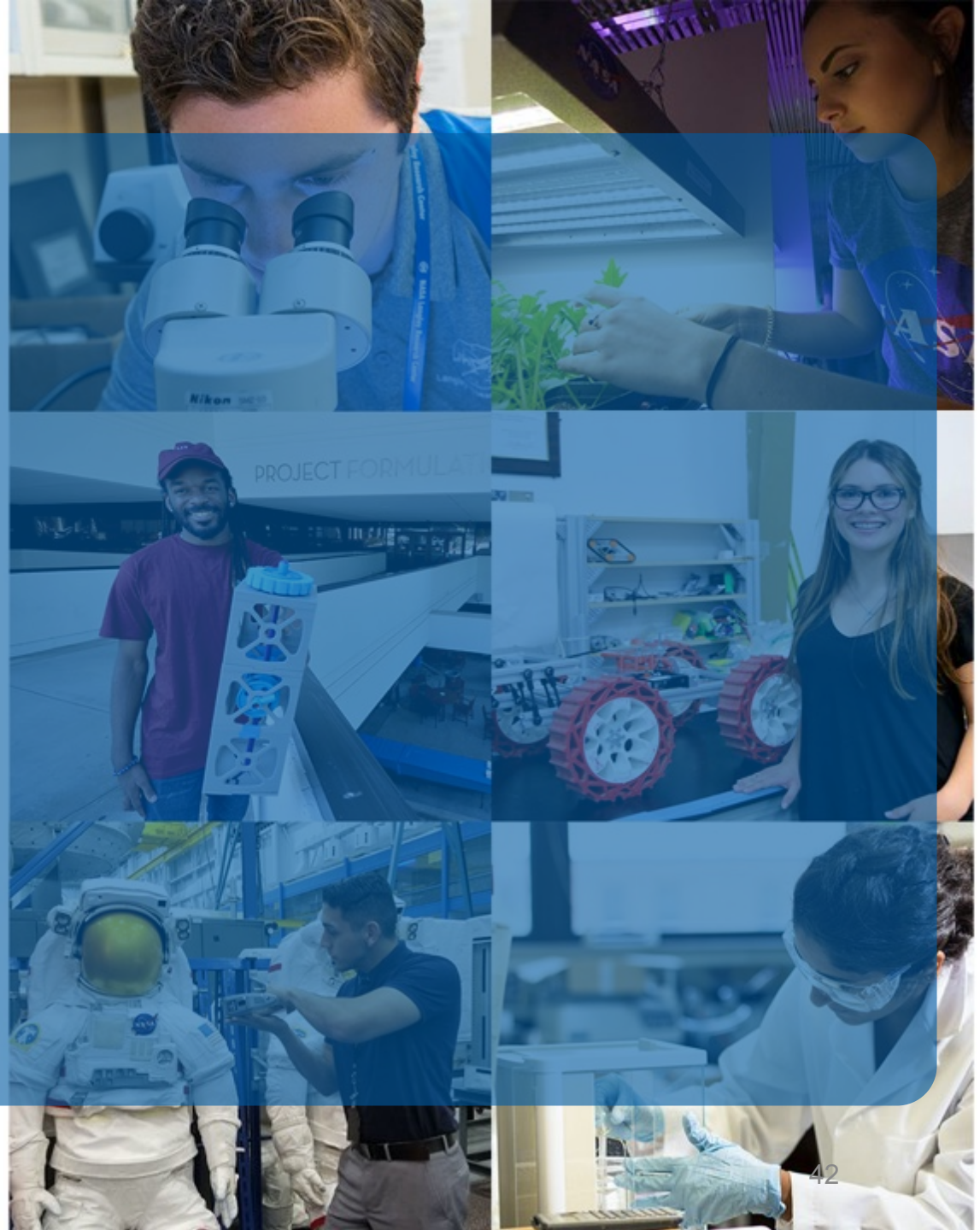
You will be provided with a **template** where you can submit your **success stories** to be featured.

Part II: Space Grant Updates

Questions? http://go.nasa.gov/3ljGUmq

Part II: Space Grant Office Report Out

- Space Grant Strategic Direction
- COVID-19 Updates
- Internships
- Award Updates
  - Artemis Student Challenges
- Solicitation Updates
- Administrative Updates
- Broadening Participation Discussion
- Questions



SPACE GRANT STRATEGIC DIRECTION

Transition Operations

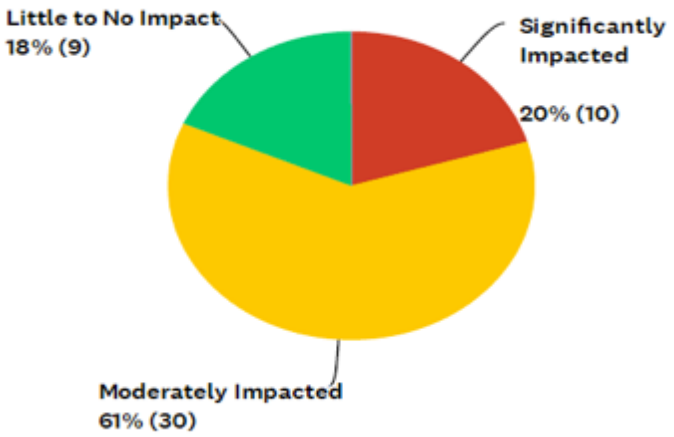
- Elimination of Designated/ Non-Designated States
- Improved efficiency with processing of awards
- Enhanced communication strategies with Consortia (webinars, individual conversations)

Forward Operations

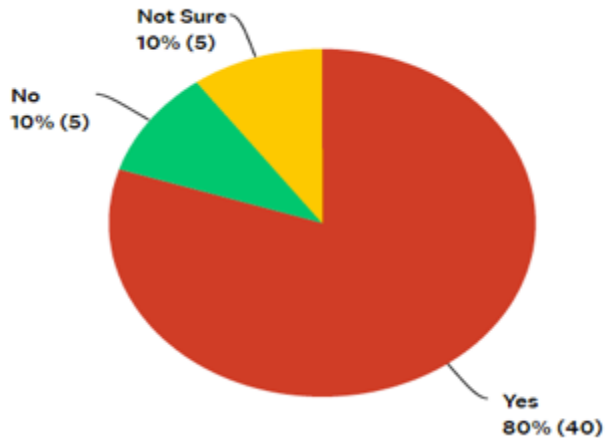
- Strengthen Alignment with MD priorities
- Established and continue Mission Directorate Cost-Matching Awards
- Internships through SG Foundation
- Regional and National Scalability
- Multi-year augmentation (no cost-matching)
- Overhaul of reporting system
- Increased focus on diversity and inclusion

COVID-19 IMPACTS

How was work been impacted due to COVID-19?



Milestones delayed/cancelled due to COVID-19



- Initiated 1:1 discussions for all OSTEM awardees, along with development of questions used by all project managers
- Received very positive feedback on this approach

We heard you:

- *Continued uncertainty as COVID-19 persists*
- *Many Consortia are facing budget cuts – furloughs, matching funding reductions*
- *Compression of Fall 2020 academic semester*
- *True impacts have not yet been realized – delayed implementation of new award milestones*

Cost-Share Waiver

- We recognize that the states are being financially impacted due to COVID-19
- Grantees have the **option**, per Section 5.9.2 of the Grants and Cooperative Agreement Manual, to request a waiver of the required cost-share
- You will need to provide a short justification as to why you are requesting a waiver, the time period of the new award that you need the cost-share waived, and award number. Send request to the technical officer
- The technical officer will concur with the request and submit the request to the NSSC for approval. The award file will be updated to reflect this change.

Requests are due by 10/30/2020

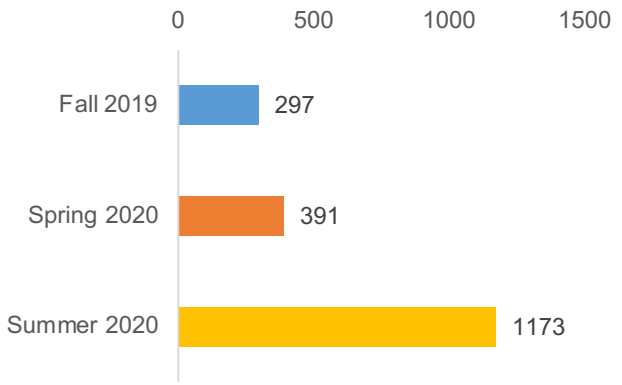
INTERNSHIPS

Questions? http://go.nasa.gov/3ljGUmq

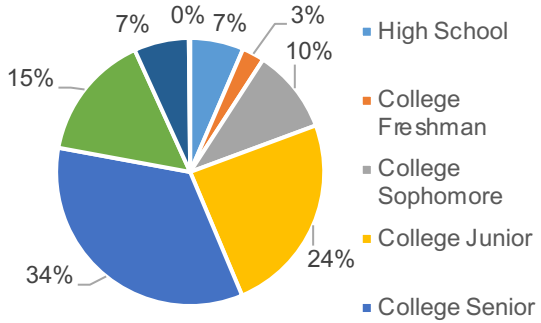
OSTEM Internships Program

Total Interns FY 2020: 1861

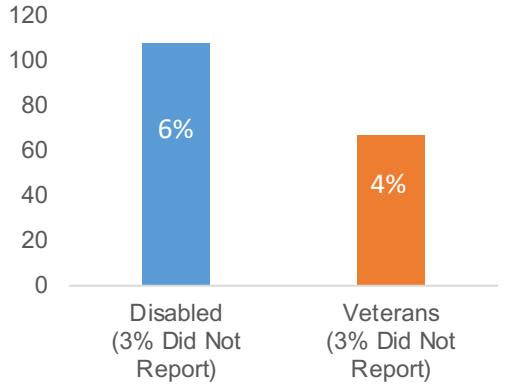
Internships By Session



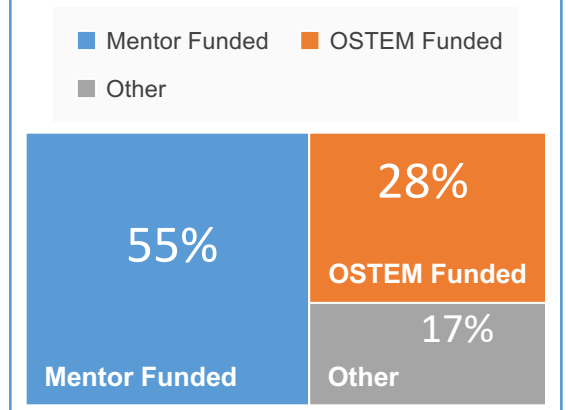
Academic Level



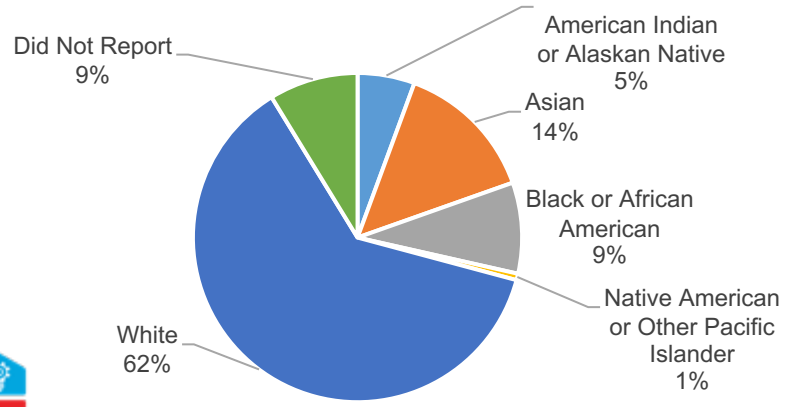
Disabled / Veterans



Funding Sources

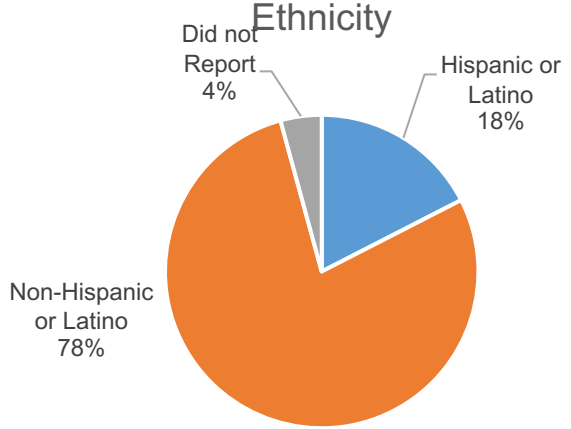


Race*

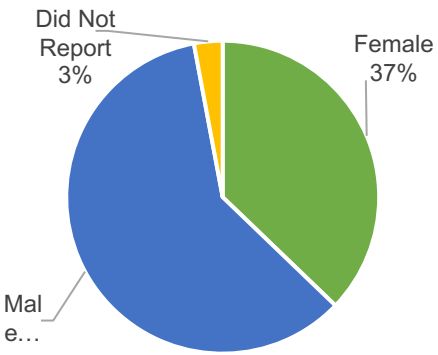


* Interns are able to choose more than one race

Ethnicity

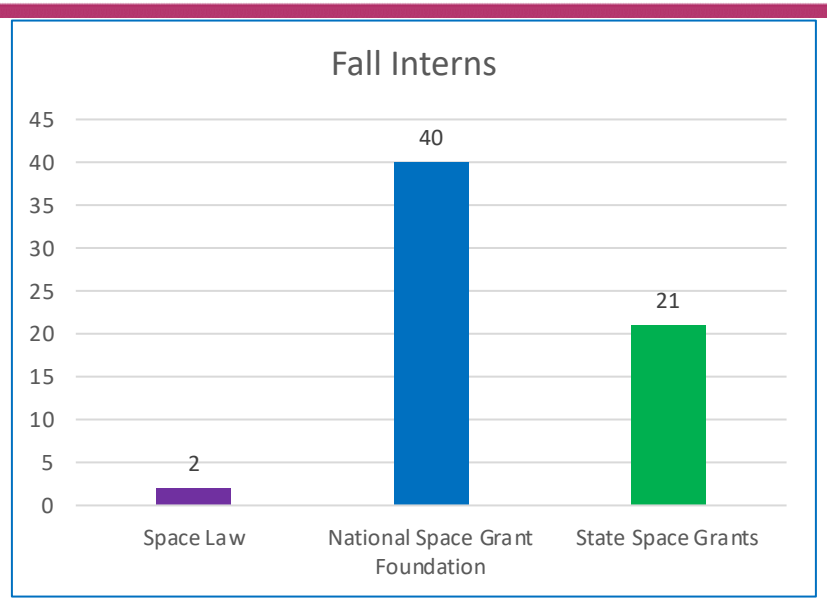


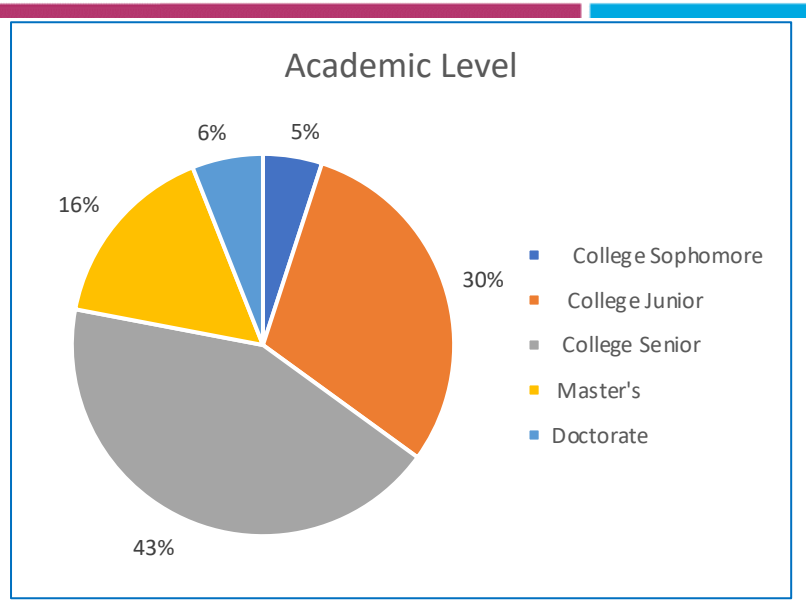
Gender

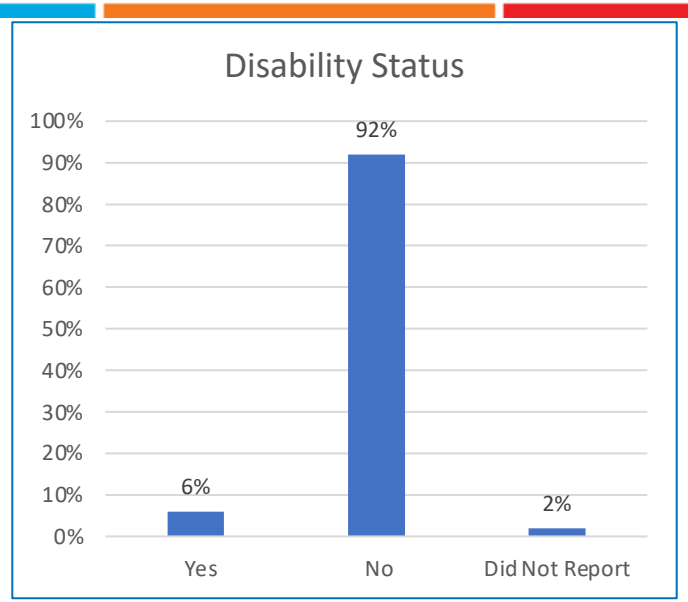


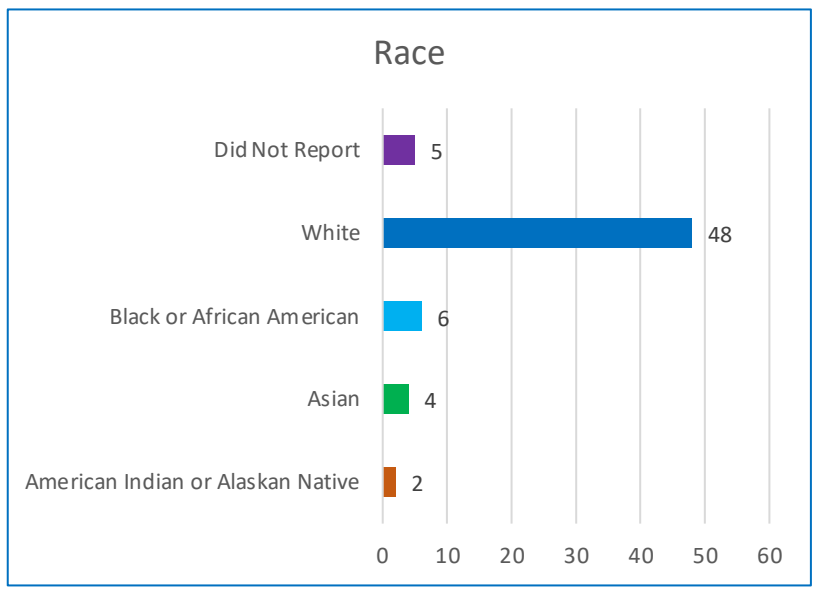
Data Based on STEM Gateway Einstein Analytics

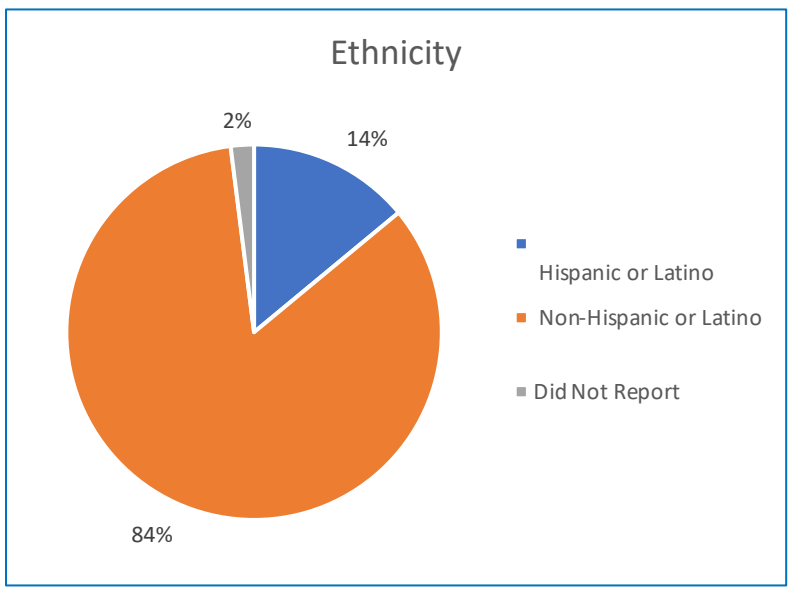
FALL 2020 SPACE GRANT INTERNS

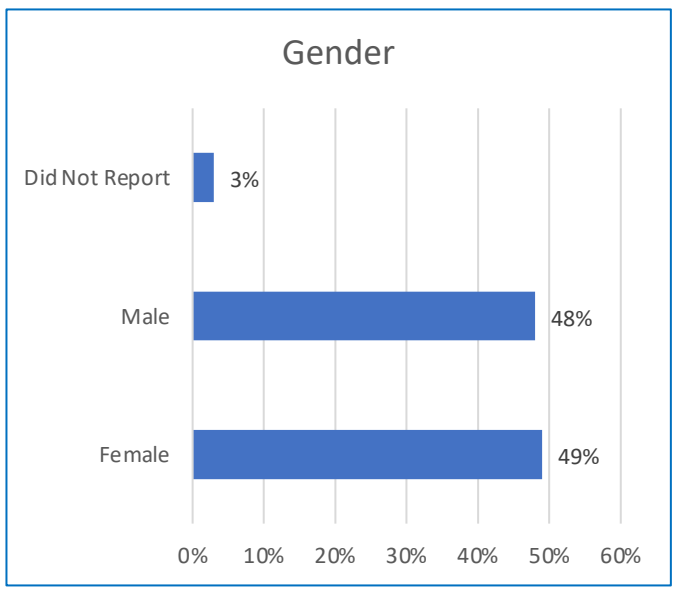






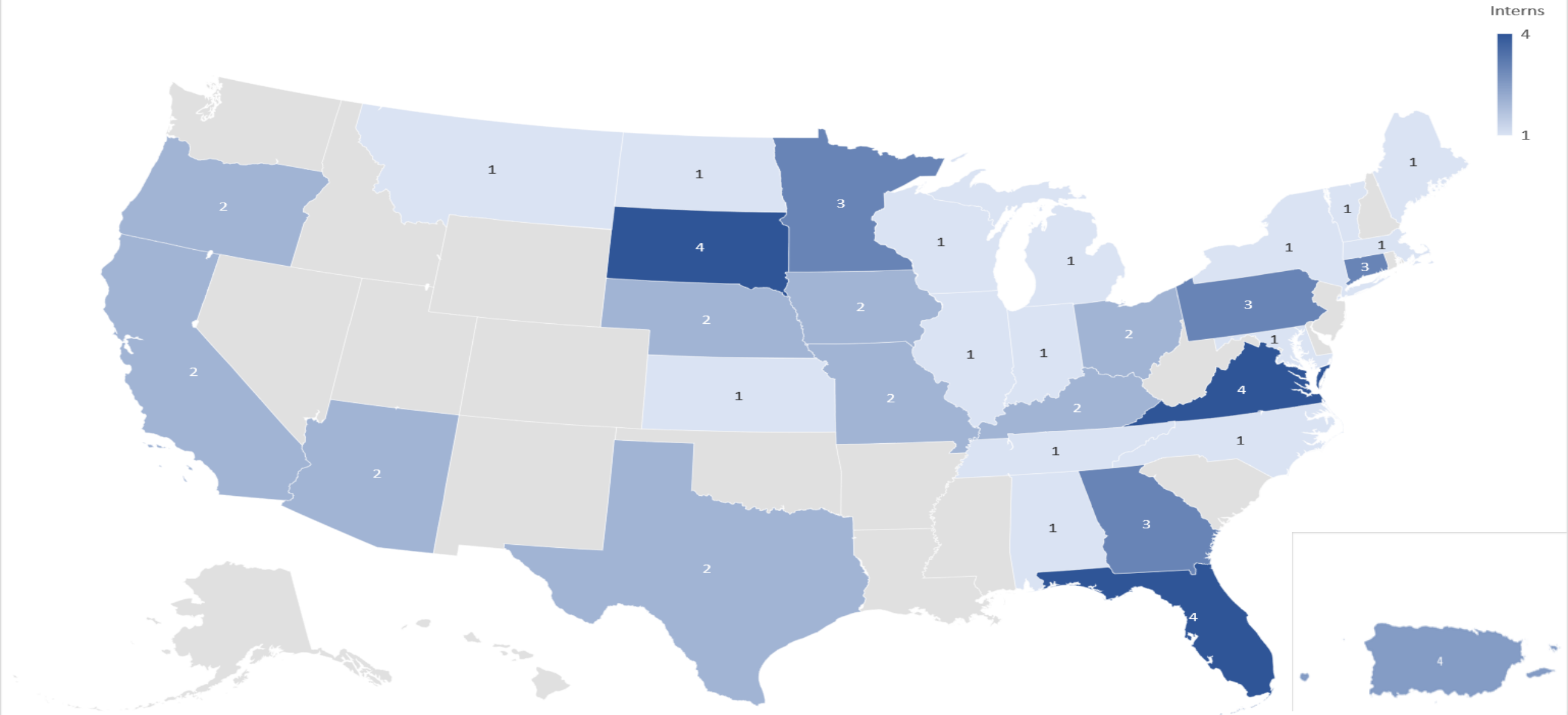




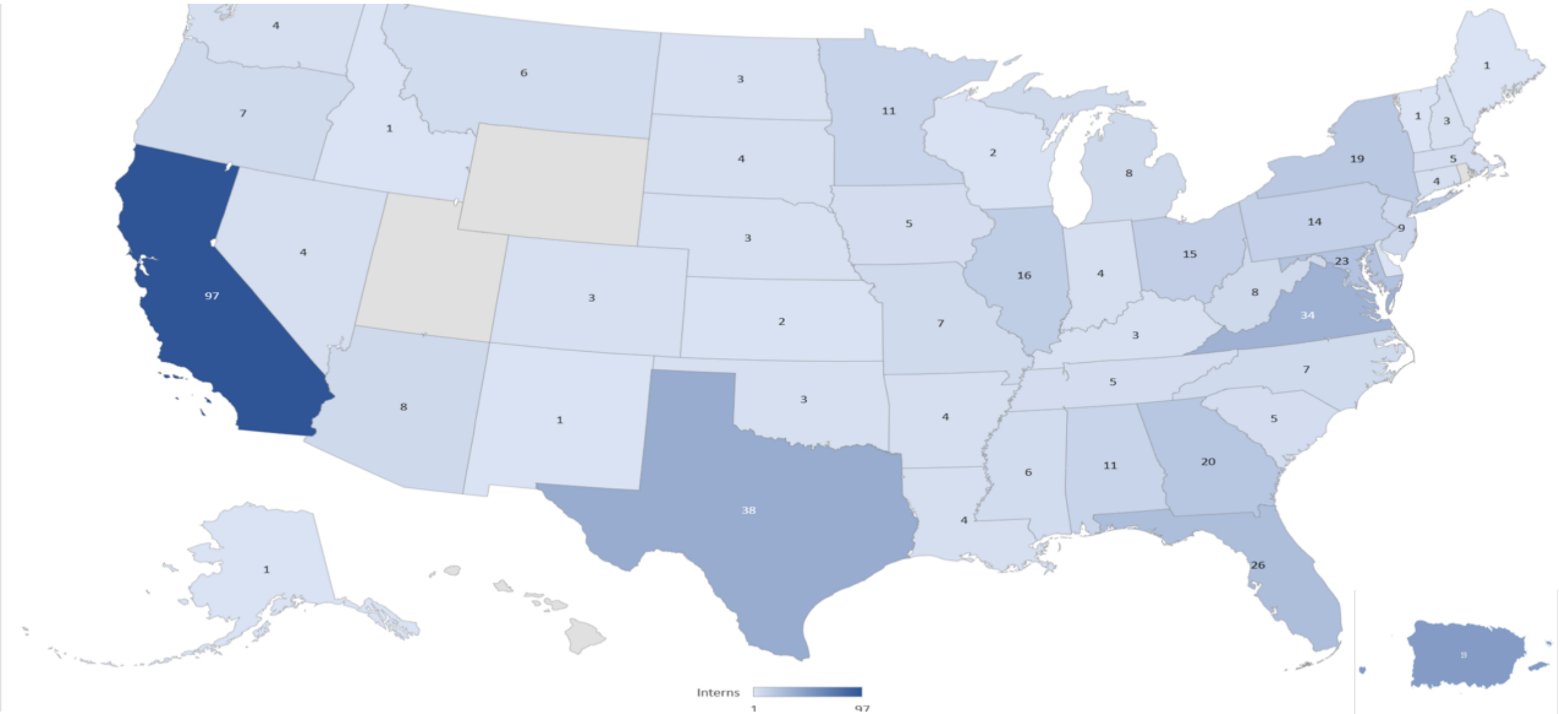


Data based on Einstein Analytics 10/5/2020

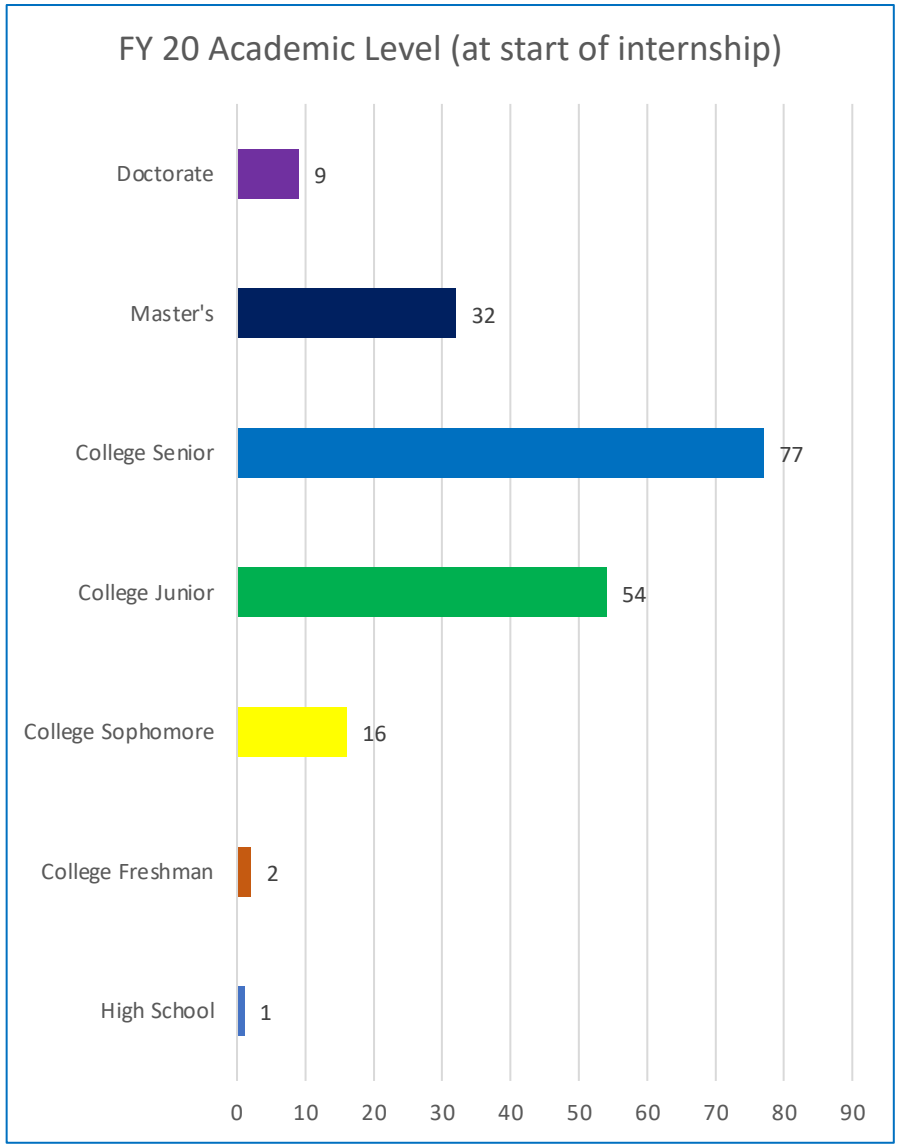
Fall 2020 Space Grant Interns

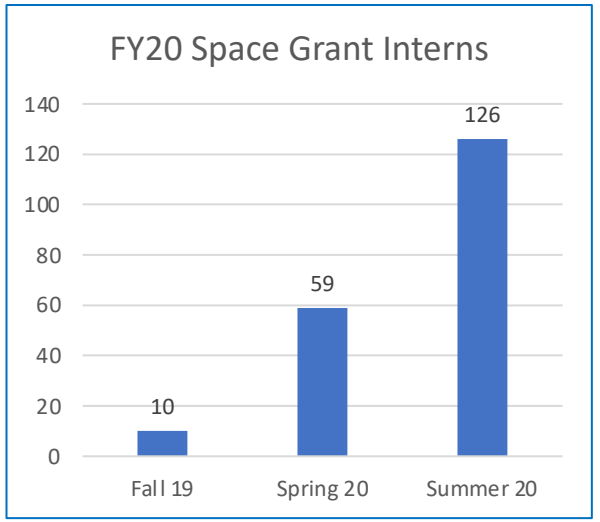


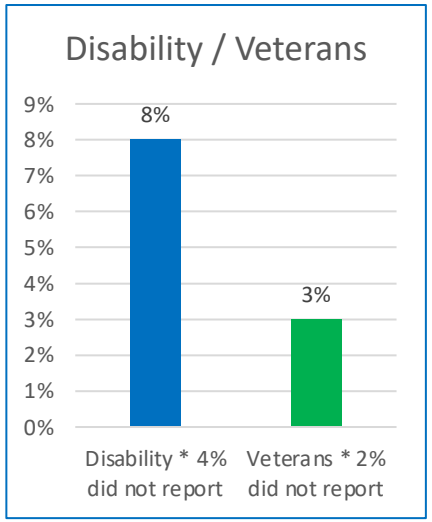
Fall 2020 Interns by State

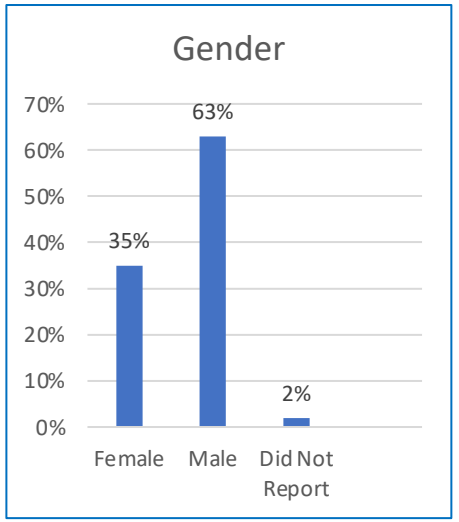


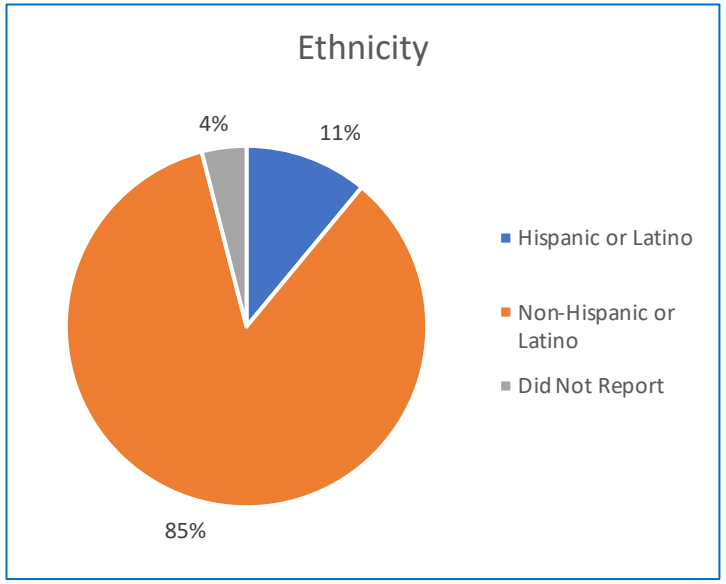
SPACE GRANT FY20 INTERNS

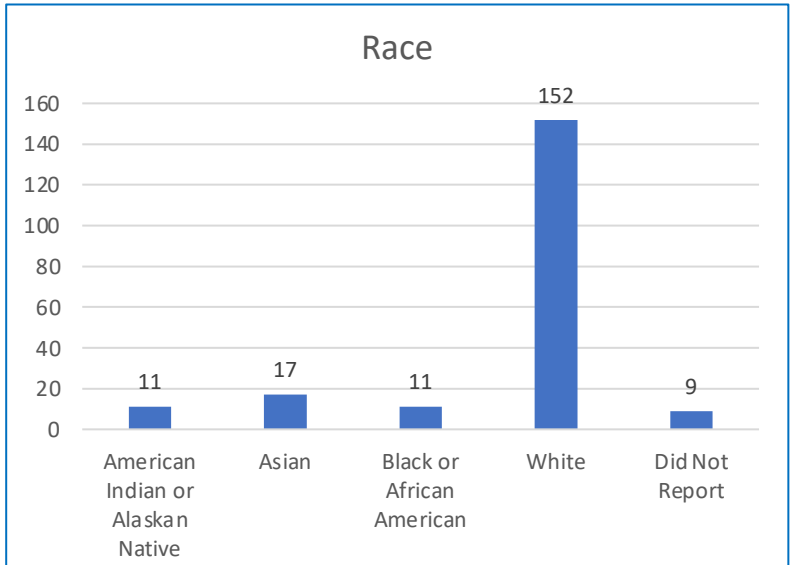












Data based on Einstein Analytics 10/5/2020

Award Updates

Questions? http://go.nasa.gov/3ljGUmq

ARTEMIS STUDENT CHALLENGES

Join an Artemis Student Challenge!

ARTEMIS STUDENT CHALLENGES

stem.nasa.gov/artemis

Human Exploration Rover Challenge
Create a human-powered vehicle designed to traverse a simulated surface and perform mission tasks of another world

Micro-g NExT
Design, build and test a tool or device to address a current space exploration challenge

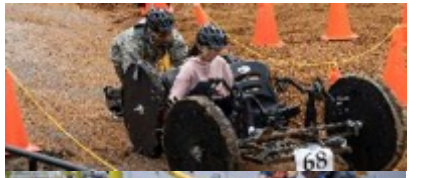
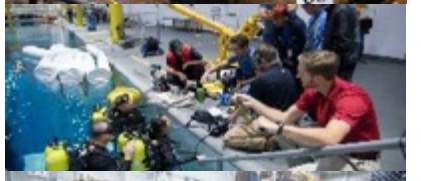
Spacesuit User Interface Technologies for Students
Design and create spacesuit information displays within an augmented reality environment

Lunabotics
Build a robot to simulate an off-world lunar mining mission

First Nations Launch
Build and launch a K-class high-powered rockets

Student Launch
Design, build and test a high-powered rocket with a scientific payload that supports research for the Space Launch System

BIG Idea Challenge
Design lunar payloads that demonstrate technology systems needed for exploration and science



JOIN ARTEMIS!

FOLLOW NASA STEM

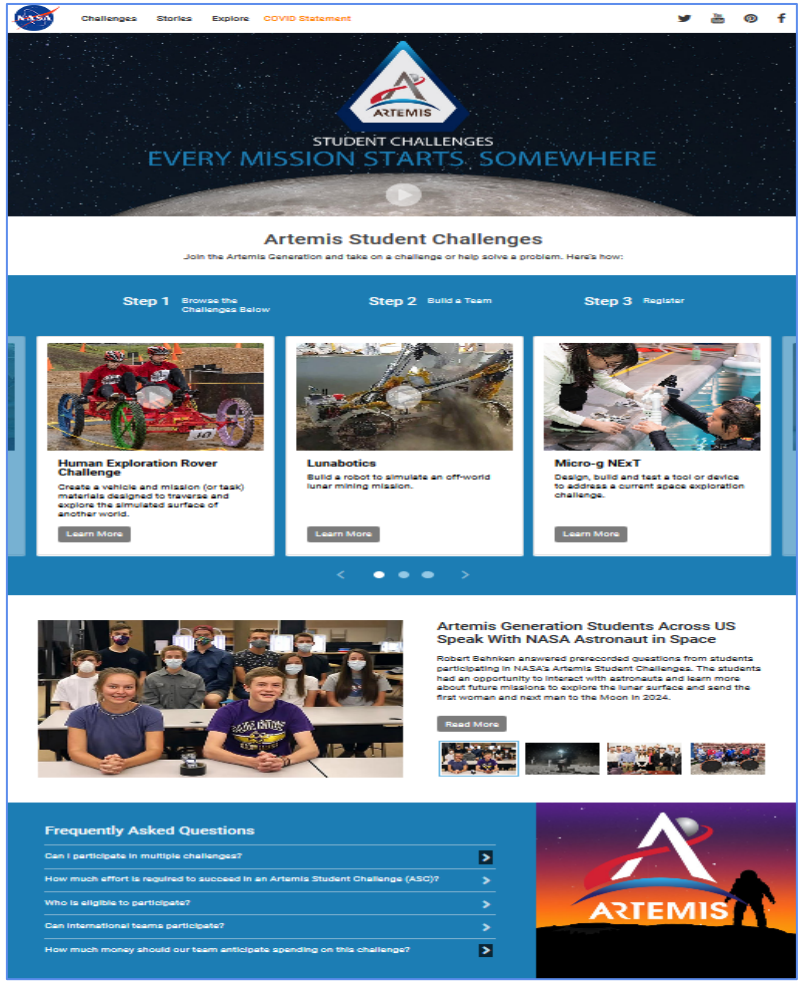
NASA STEM ENGAGEMENT

NASA STEM

#NASASTEM

NASA STEM

@NASASTEM



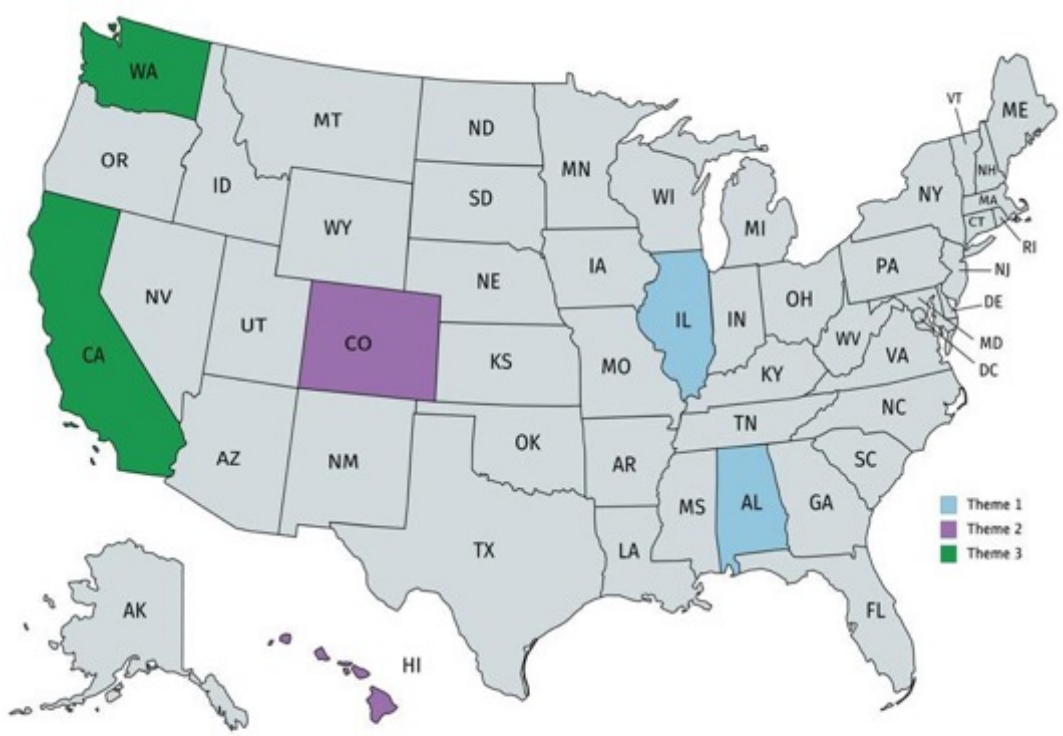
http://stem.nasa.gov/artemis

https://go.nasa.gov/2Sz1d3a

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

ARTEMIS STUDENT CHALLENGE – NEW AWARDS

Proposal #	Space Grant Consortium	Principal Investigator (PI)	Lead Institution	Funding Amount
20-Artemis-1-0023	AL	Lawrence (Dale) Thomas	University of Alabama, Huntsville	$200,000.00
20-Artemis-1-0024	CA	John Kosmatka	University of California, San Diego	$500,000.00
20-Artemis-1-0011	CO	Christopher Koehler	University of Colorado, Boulder	$499,333.00
20-Artemis-1-0001	HI	Luke Flynn	University of Hawaii, Manoa	$500,000.00
20-Artemis-1-0018	IL	Joshua Rovey	University of Illinois, Urbana-Champaign	$200,000.00
20-Artemis-1-0005	WA	Robert Winglee	University of Washington, Seattle	$499,864.00
			Total	$2,399,197

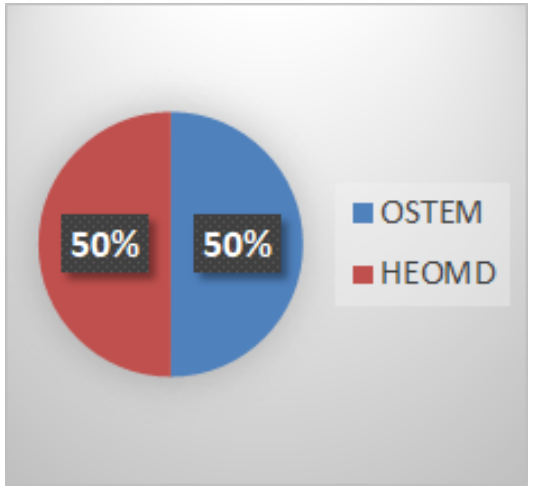


INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

ASC AWARDEE – ALABAMA

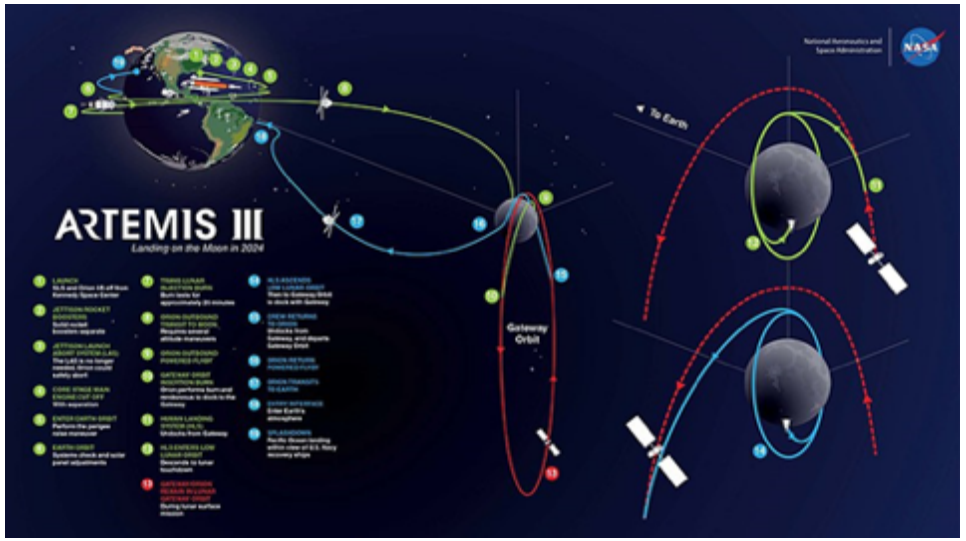
Teaching the Moonshot: Getting there and back with Multi-Body Dynamics

- Creating internet-accessible self-study and teaching resources for mission analysis within gravitational multi-body environments.
- Teaching interface using massive open online course (MOOC).
- Developed for undergrad junior/senior level in astrodynamics.



Current Status:

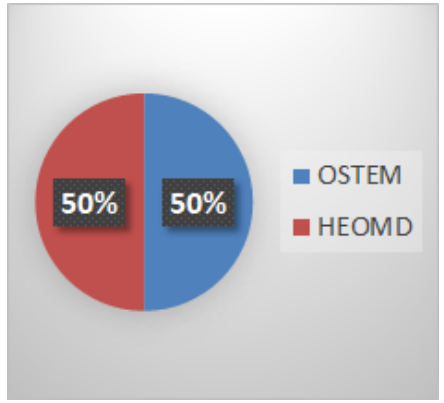
- 2 of the 5 modules complete
- VR environment called "Artemis Hall"
- 10-15 min. videos of professionals in the field
- Learning assessment after each module
- Presenting at the ASCEND conference



ASC AWARDEE – CALIFORNIA

LEAPFROG: Next Generation Lunar Lander Prototype for National STEM Competition

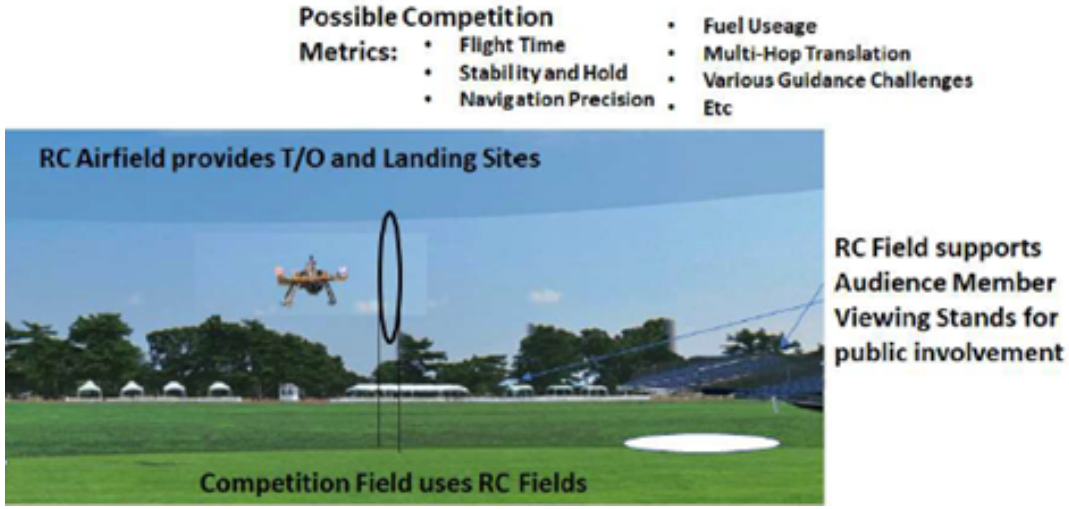
- Use of lunar lander simulator called LEAPFROG to provide "systems engineering hands on" training project for undergraduates.
- Use at radio-control (RC) fields across the country.
- Critical skill sets in electronic embedded systems, coding, control, and navigation systems, and the systems engineering interplay to operate a flight vehicle.



Current Status:

- Added a flight development competition using
- software development due to virtual environment
- Year 1 – build and execute in CA, Year 2 – open to
- the nation
- Creating 6 regions in the US for competition

CALIFORNIA SPACE GRANT CONSORTIUM

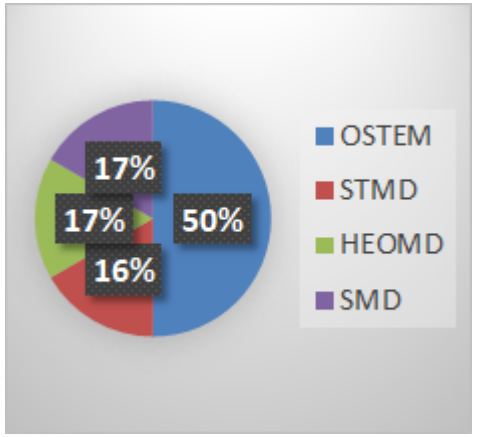


INSPIRE-ENGAGE-EDUCATE-EMPLOY
The Next Generation of Explorers

ASC AWARDEE – COLORADO

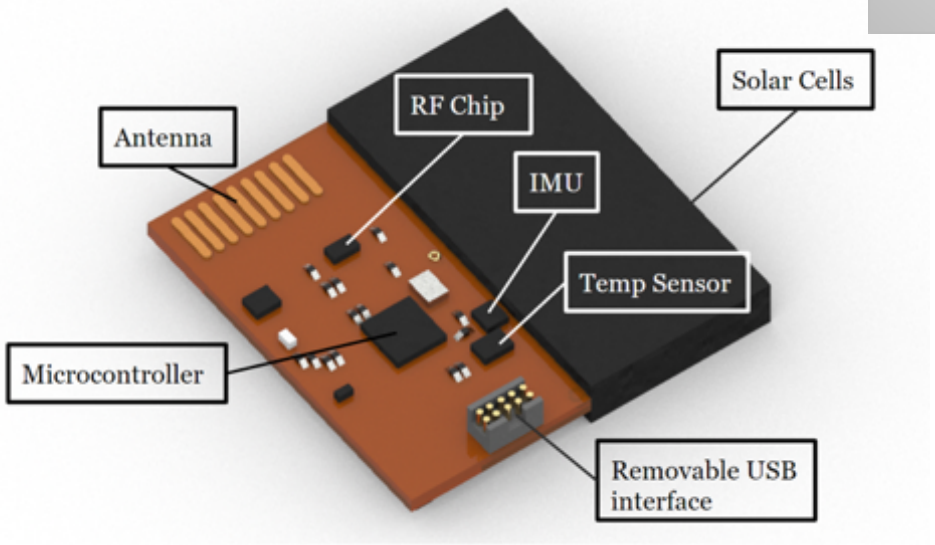
Great Lunar Expedition for Everyone (GLEE)

- Encourages students or teams to create LunaSats, a fully functional and autonomous spacecraft the size and weight of a maple leaf.
- LunaSat sensors include temperature sensors, accelerometers, magnetometers, gyroscopes, and sensors that measure infrared and cosmic radiation.
- 500 student-built LunaSats on the Moon



<u>Current Status:</u>

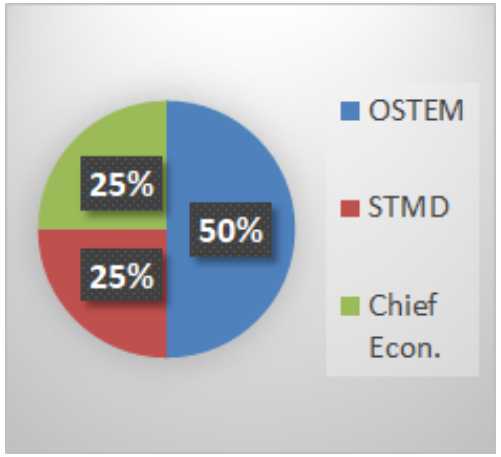
- Recruited a team of students to develop kits
- Developing LunaSat Kit and Design
- Completed high-altitude balloon test
- Recruiting for the Science Advisory Board



ASC AWARDEE – HAWAII

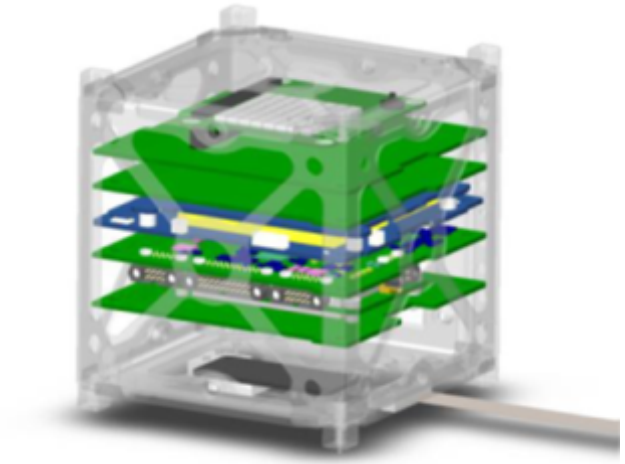
Low-Cost CubeSat Kit and Course Development for Undergraduate Research Projects in the Public Domain

- Creating low-cost CubeSat kits including onboard computing, radio communication, rudimentary dynamic sensors, infrared camera, and electrical power system.
- Developing an online undergraduate course, reinforcing theoretical curriculum with ties to hardware
- Serve underserved, underrepresented populations



Current Status:

- Satellite kit – launch suborbital payload under $5K
- Number of strategic partners in several states, mostly community colleges
- Working with partners to understand the curriculum needs in a CubeSat educational program

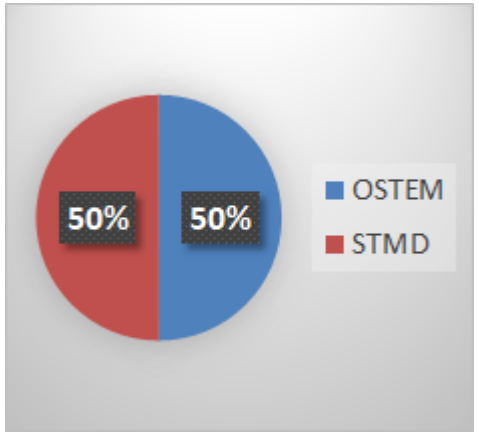


HAWAI'I SPACE GRANT CONSORTIUM
NASA

ASC AWARDEE – ILLINOIS

Efficacy of Student Self-Study of Foundational Artemis Information

- Develop technical resources and materials through a web-based self-study interface
- Videos, presentations, problems aligned to NASA's Advanced Exploration System domains
- Functional domains on crew mobility, habitat, vehicle, and foundational systems, robotic precursor, strategic operations, and integration around "Go, Land, Live, Explore" themes



Current Status:

- Developing online materials including videos of individuals in the field
- Creating an example of materials to share with SME's
- Students working through courses and providing feedback
- Pre-Assessment, self-study, post-assessment, badge/certificate

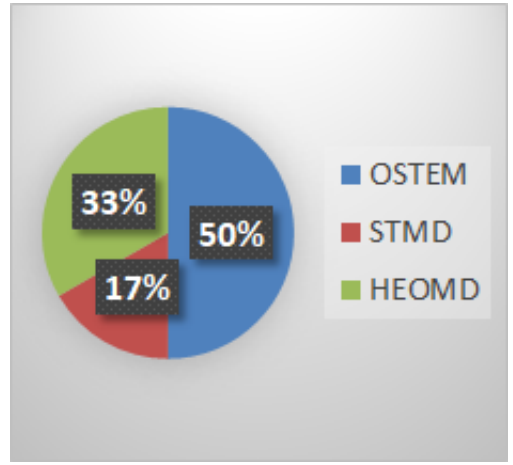
Illinois Space Grant Consortium

INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

ASC AWARDEE – WASHINGTON

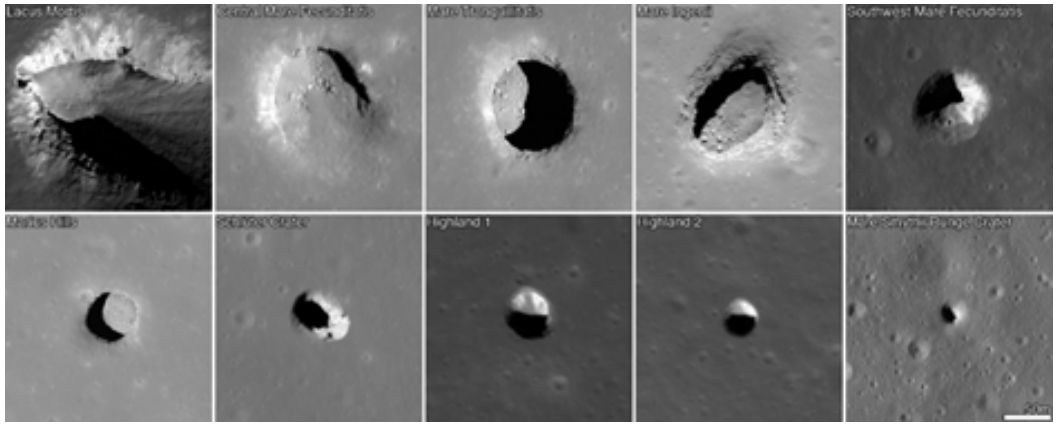
Lunar Technology Exploration Challenge (LTEC)

- Creating a multi-state undergraduate pilot challenge
- Develop a mechanism to deploy a rover through dark lunar lava tubes, maneuver obstacles and boulders, use photometry and spectrometry to develop a 3-D map, and deploy a barrier/plug to seal a portion of the lunar lava tube.
- Use Vex robots with Raspberry Pi embedded computers for running sensors, cameras, and components.



Current Status:

- 9 universities involved – 45% underrepresented
- Working to box the large set of parts, trays, rocks, and sand for creating the course
- Developing manuals to document challenges
- Creating 6 different sets to accommodate varying levels of expertise



Solicitation Updates

Questions? http://go.nasa.gov/3ljGUmq

EVALUATION SOLICITATION

Proposals Due: July 16, 2020
Selections: Mid- August 2020
Anticipated Award: Mid-September 2020
Number of Awards: 2
Total Funding Available: $750,000

Pre-Solicitation Process
Solicitation Release
Solicitation Due
Review Process
Selections
Awards

- **Period of Performance**: 2 years; start 10/1/2020

- **Awards**: *University of Alaska* and *New Mexico State University* are the awardees
- https://www.nasa.gov/feature/stem/space-grant-embarks-upon-exciting-program-level-evaluation-pilot

Multi-Year Augmentation Solicitation Status

Pre-Solicitation Process
Solicitation Release
Solicitation Due Date Approaching
Review Process
Selections
Awards

- Earliest release would be late June/early July
- Funding available: $770,000 per Consortium
- Period of performance: Years 2 – 4
- Pre-Proposal Webinar held on 8/13/2020 at 1pm EDT
- Would keep requirements as streamlined as possible:
  - Revisions to scope of work
  - Revisions to budgets and budget narratives that aligns with revised scope of work
  - Revisions to milestones
  - Revisions to S.M.A.R.T. goals, where applicable
- Review process would be targeted for completion in time for Year 2 award processing

Administrative Updates

Questions? http://go.nasa.gov/3ljGUmq

OMB COVID-19 FLEXIBILITIES

- The salary flexibility that was extended to Grant Recipients impacted by COVID-19 and outlined in the attached NASA's implementation of OMB Memo M-20-26 expired on 10/1/2020

- OMB has not extended the flexibility; therefore NASA will issue exceptions to the regulation on a case-by-case basis in accordance with 2CFR200.102 "Exceptions"

- NASA has guidance to support this updated implementation at the NSSC's grant website (https://www.nssc.nasa.gov/grants)

- If you need assistance with this, please reach out to your technical officer with a cc: to hq-space-grant@mail.nasa.gov

CHATS WITH CONSORTIA

What: Chats with Consortia

Who: Consortium Director, Consortium staff and NASA personnel

When: Chats with Consortia will resume in November 2020, targeting the week of 11/16/2020

Why: OSTEM leadership wants to gain some insights into what the Spring 2021 semester will entail, and to provide updates to previously mentioned COVID-19 impacts

Where: Virtual – Using Teams as we did before

Additional Information:

- We will deploy the same process with one minor change:
  - You will receive the results from your last chat for review to prepare for the chat
- More information will come out over the next few weeks

CONSORTIUM PROFILE

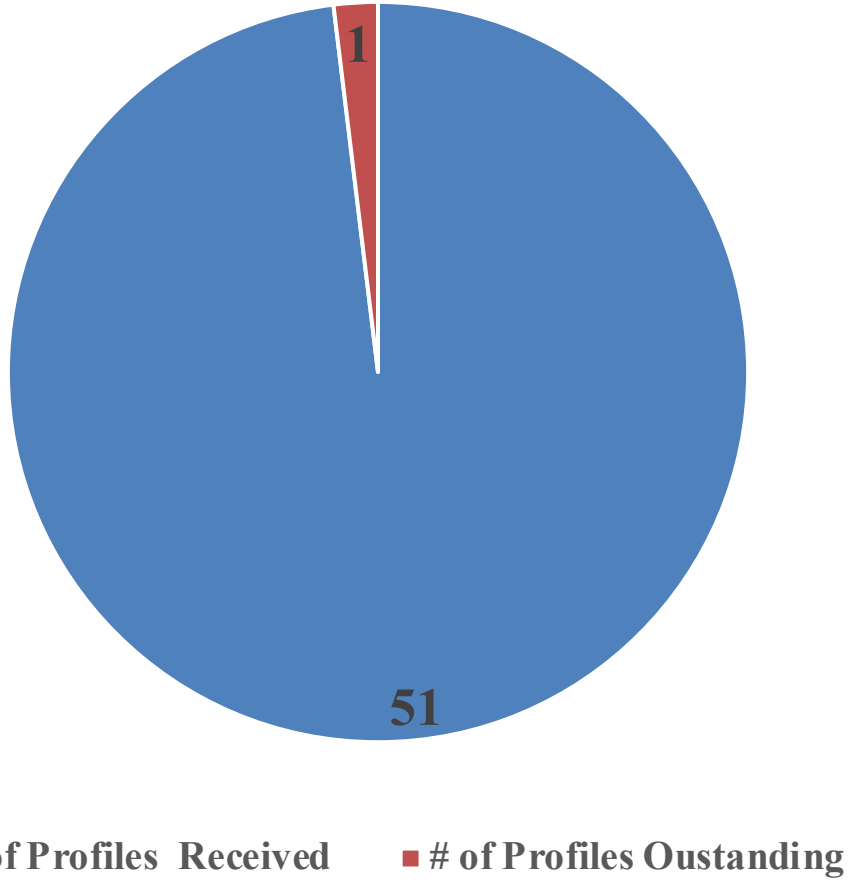
- Each Consortium needs to craft a profile that is truly representative of their Consortium and is a summary that the Consortium is proud of.

- This is a requirement of the four-year base award, and your Consortium Profile will be included on the NASA Space Grant website.

- Please submit your Consortium Profile no later than **9/11/2020, 11:59pm EDT.** Submission may be sent to the HQ inbox, hq-space-grant@mail.nasa.gov

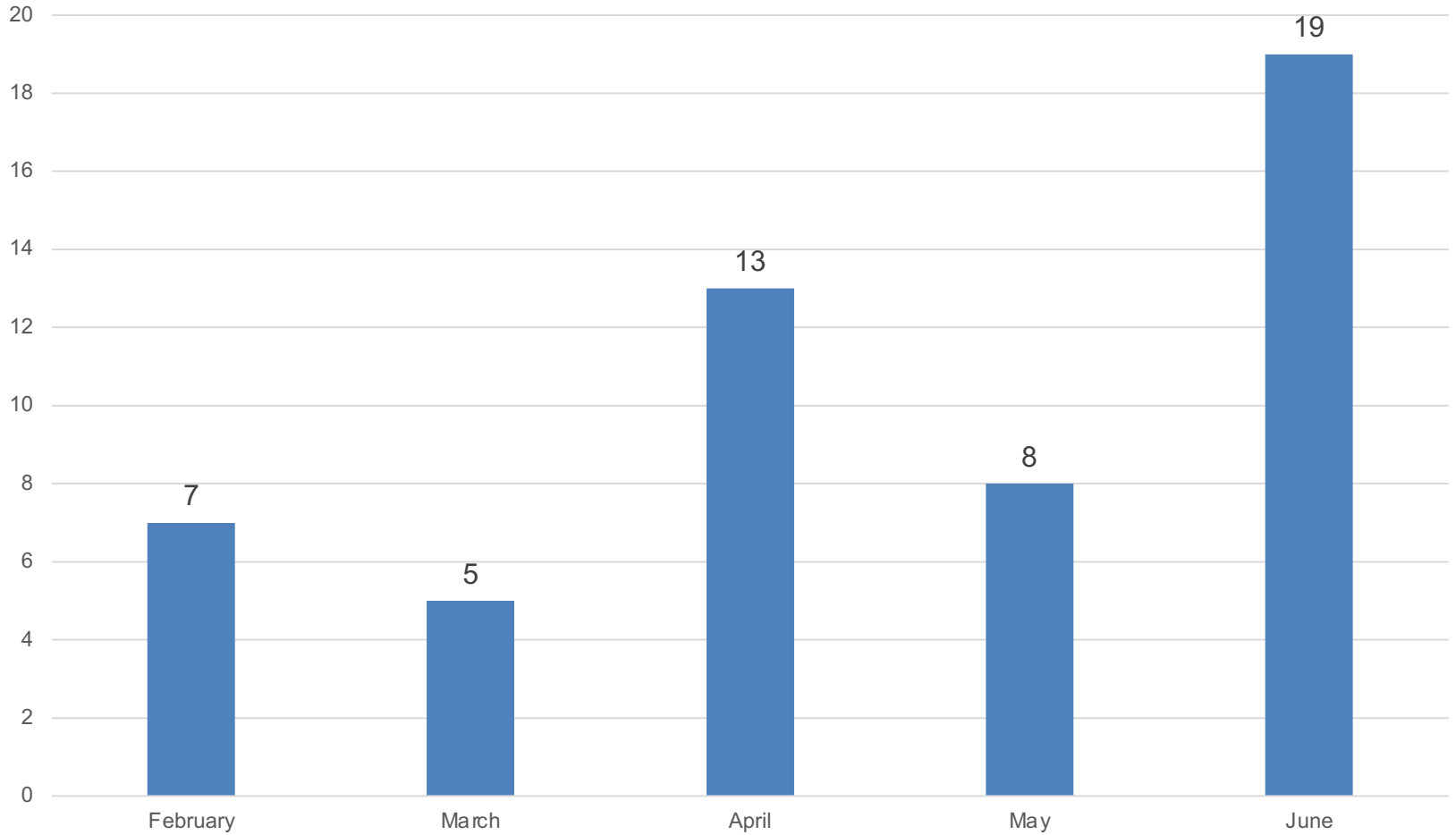
- For more information, and an example of a submitted consortium profile, please reference the email from Erica, sent 8/4/2020, 5:18pm.

STATUS OF CONSORTIA PROFILES



INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

AWARD ANNIVERSARY DATE DISTRIBUTION

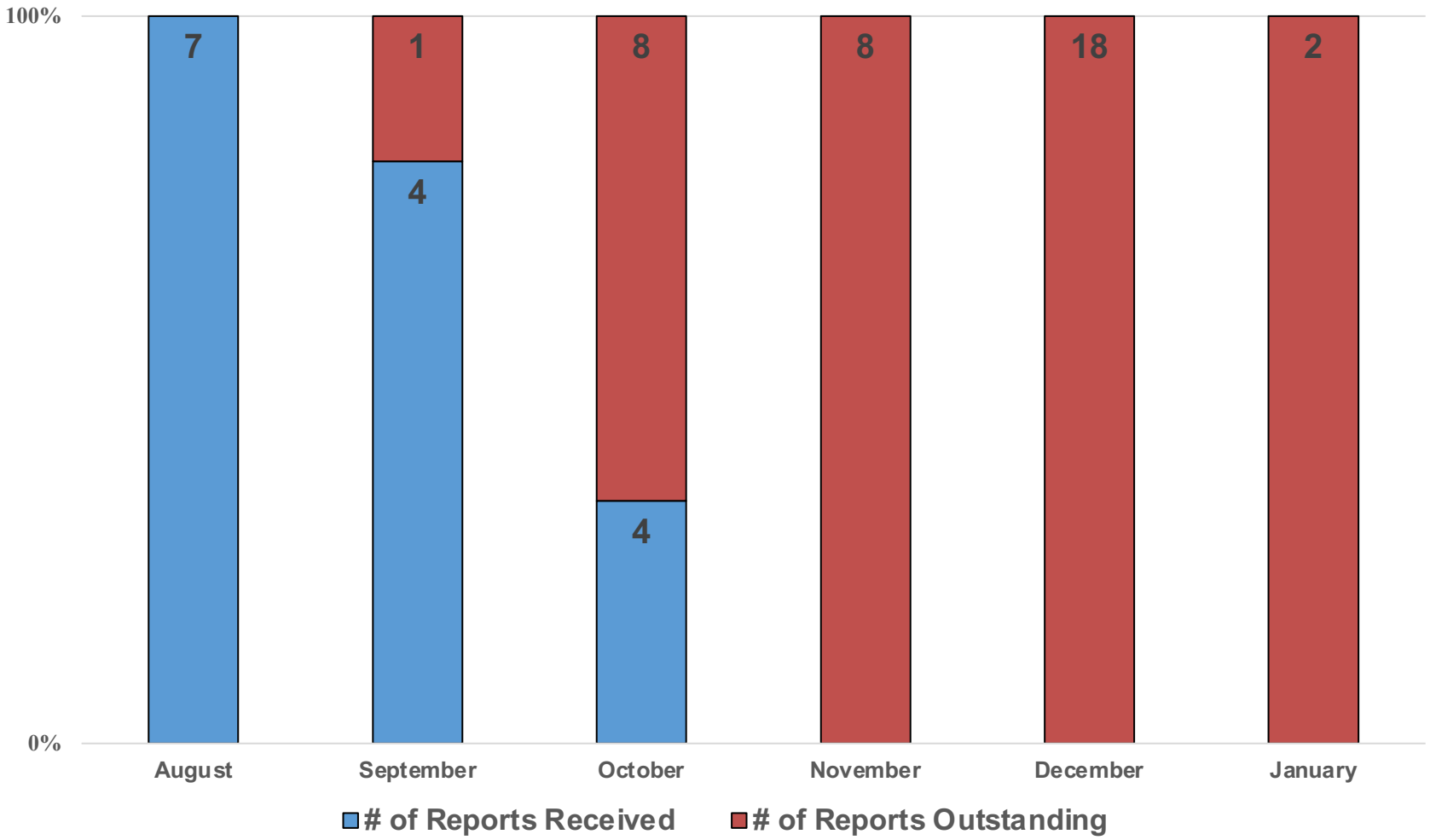


NOTE: Some anniversary dates have been grouped with the nearest month for summarization purposes

6-Month Reporting

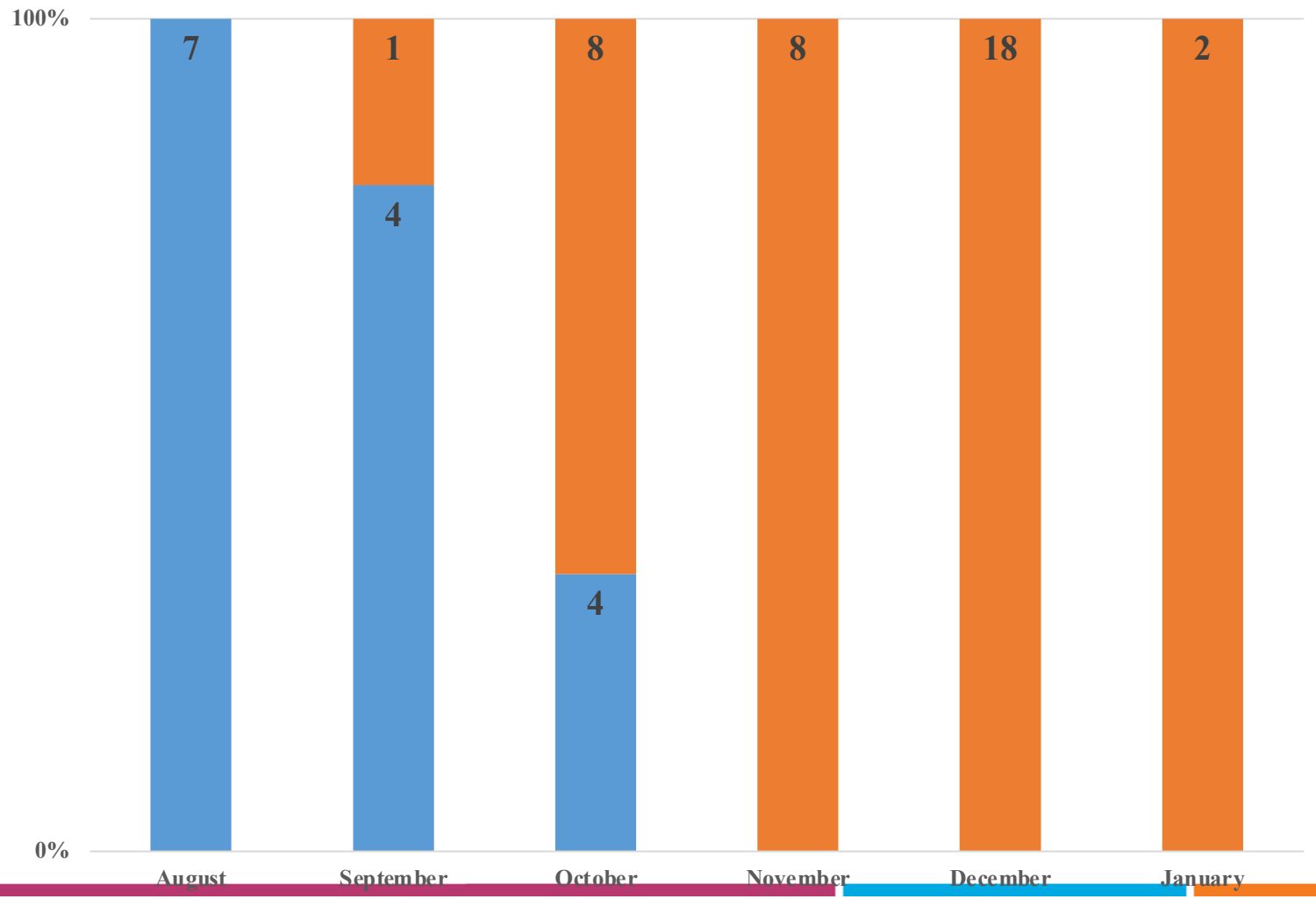
- In the FY2020-2024 Solicitation, there is a 6-month reporting requirement
- Purpose: Check-in on the progress of the award bi-annually
- Please refer to email that Erica sent on **8/5/2020** for specific guidance
  - *Subject Line = Space Grant: 6-month reporting*
- Awardees will receive formal feedback on the 6-month reporting related to:
  - Milestones
  - Accomplishments
  - Challenges

6-Month Reporting Status



INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

6-month Report Status



INSPIRE - ENGAGE - EDUCATE - EMPLOY
The Next Generation of Explorers

Annual Performance Reports

- The submission of the award's annual performance report is the mechanism that authorizes the next increment of funding
  - Positive award implementation progress is required for the next increment of funding
  - This document is where the awardee can officially document impacts due to external factors, e.g., COVID-19

- Annual reports are due 60 days prior to your award's anniversary date
  - The NSSC will email reminders about this report being due

- Late submissions of the annual report will result in the following:
  - Non-compliance with the terms and conditions of the award
  - **Delay in incremental funding**

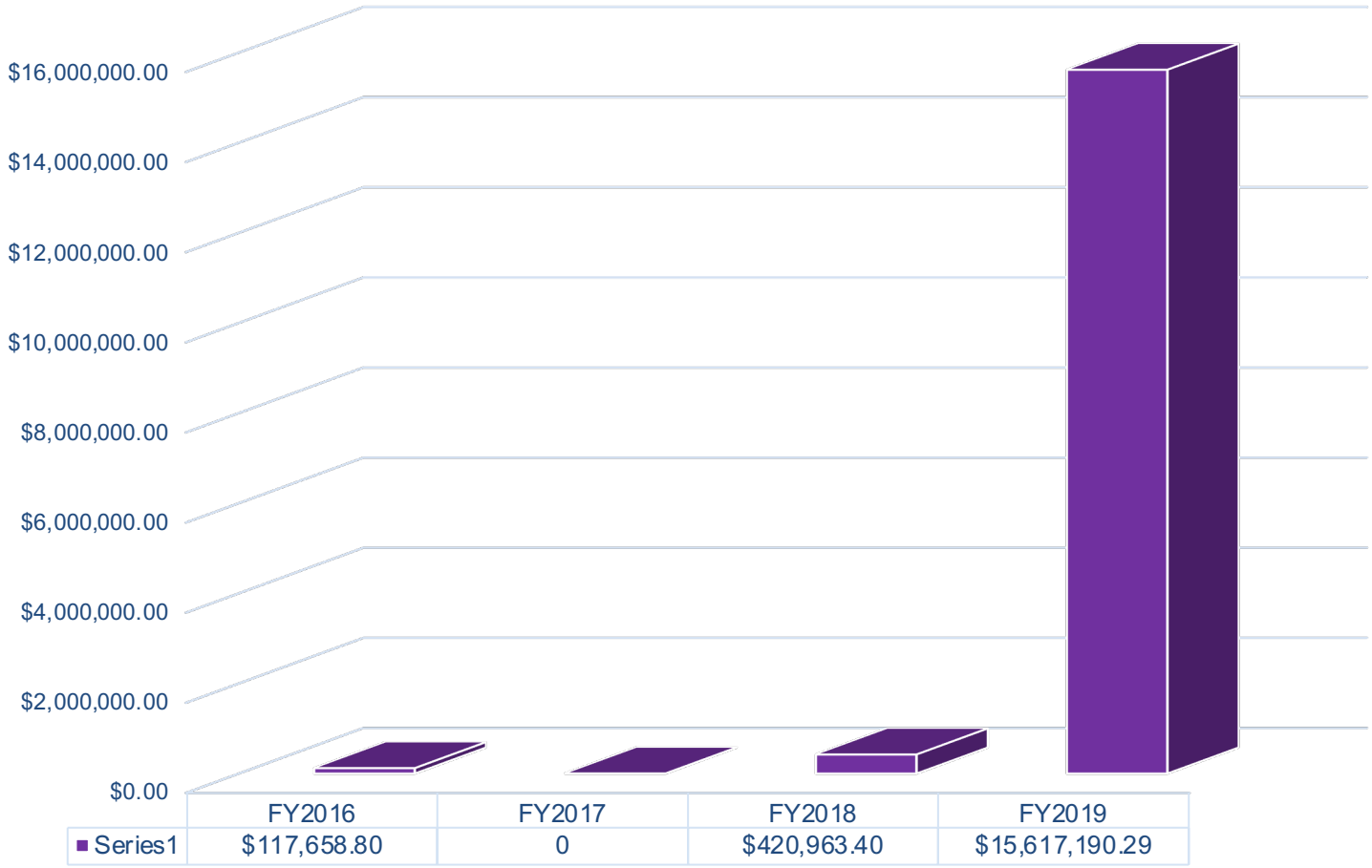
2020 White House MSI Report

- White House MSI Report data call was sent out to the consortia on Monday, 10/5/20
- Send all MSI Funding data to Mike Cherry; Michael.R.Cherry@nasa.gov, no later than **Friday, October 30, 2020**
- If you have any questions, please reach out to Mike Cherry directly; 202.358.0347
- **NOTE:** Not all categories on the list of MSI's are considered underrepresented in STEM, the classification that the Space Grant Program uses. For this reason, this expanded list of MSI schools will only be used for this specific report.

AWARD FUNDING UNDER A CR

- We are planning for a CR to start FY2021
- Under a CR we will only receive a percentage of our yearly budget that is adjusted based on the length of the CR
  - We will receive more funding under a 3-month CR vs. a 10-week CR
- To ensure maximum reach of funding, Space Grant will fund the awards at 50% of the yearly value based upon period of performance
  - For example, if you have a March 2021 anniversary date and we are under a CR, you will receive 50% of award ($385,000) in March.
- Once the FY21 budget is passed or everyone has received a partial payment, Space Grant will make all awards whole

UNCOSTED BALANCES



FY2016 remaining funds are for USIP

FY2018 (~1% remaining) and FY2019 (41% remaining) are the base awards

50% of remaining FY19 funding resides with 12 Consortia where the balance > $500,000

AWARD SPENDING

- While we recognize the impact that COVID-19 has imposed upon the awards, it remains critical that you spend your remaining award funding

- NCEs will be handled on a case-by-case basis for the old 5-yr awards
  - These awards are past the 5-year period of performance, therefore, NCEs will be subject to increased scrutiny
  - NCEs not likely to be for a full-year; partial year NCEs will be better received
  - HQ will work with the grantees that request NCEs to work through the process

- The program office is monitoring execution against the proposed milestones for the new awards

Space Grant & Broadening Student Participation Efforts

Questions? http://go.nasa.gov/3ljGUmq

BROADENING PARTICIPATION

- **July 2020: In the Space Grant Executive Committee and Alliance Meeting, we discussed Space Grant efforts around broadening participation.**

- **Emerging Issues:**
  - Reporting of diversity metrics:
    - Can we get a report card that includes the last year of the reported and a running average?
    - How can we make it a more formal process by sending it directly to the Director."

  - Focus on specific demographics:
    - "How can move the percentage of women?"
    - How we do measure efforts to reach underserved populations, e.g., first-generation students, Pell Grant recipients, students from rural backgrounds, etc."

Diversity Deep Dive

- The Performance and Evaluation team conducted a Diversity Deep-Dive that focused on the diversity of funded OSTEM interns that come through the NIF program on NASA Centers and Space Grant-funded interns
- Several Consortia actively participated in a focus group around this topic
- We have/will scheduled/schedule a webinar for the presentation of the Diversity Deep-Dive
  - Target Date: Wednesday 10/21/2020 at 2:00 p.m. EDT

Upcoming Events

- October 14, 2020 – Special Webinar: Featuring OSTEM's Next Gen STEM
- October 21, 2020 – Special Webinar: Diversity Deep-Dive Briefing
- Late October – Special Webinar: OSTEM Gateway Overview (aka OEPM 2.0)
- Mid-November 2020 – Chats with Consortia
- Late November 2020 – Notifications sent about augmentation proposals

Taking Your Questions

Ask Questions Using:

http://go.nasa.gov/3IjGUmq

Don't forget to vote responses up!