

Wednesday, August 23, 2023		
9:00 - 9:05 am EDT	Kick-Off /Welcoming Remarks (DOE-EM)	Rod Rimando (Acting Director, Technology Development) – DOE EM-3.2
9:05 - 9:10 am EDT	Welcoming Remarks (DOE-LM)	Ms. Jalena Dayvault (Site Manager) – DOE LM
9:10 - 10:40 am EDT	Project 2: Environmental Remediation Science & Technology	FIU, DOE HQ, SRNL, PNNL, ORNL, LANL, LBNL, CBFO
10:40 am - 12:10 pm EDT	Project 1: Chemical Process Alternatives for Radioactive Waste	FIU, DOE HQ, PNNL, WRPS, SRNL, SRS
LUNCH BREAK [12:10 – 1:30 pm]		
1:30 - 3:00 pm EDT	Project 3: Waste and D&D Engineering & Technology Development	FIU, DOE HQ, SRNL, PNNL, LBNL, INL, ANL
Thursday, August 24, 2023		
9:00 - 10:30 am EDT	Projects 4 & 5: STEM Workforce Development and Training	FIU, DOE HQ (EM & LM), SRNL, PNNL, WIPP, SRS, ORP, LBNL, WRPS, INL, Grand Junction
BREAK [10:30 – 10:35 am]		
10:35 - 12:00 pm EDT	Wrap Up (FIU Projects 1, 2, 3, 4 & 5)	FIU, DOE HQ (EM & LM)

FIU

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DOE-FIU Cooperative Agreement Annual Research Review – FIU Year 3

PROJECT 4

DOE-FIU Science & Technology Workforce Development Initiative

PROJECT 5

Long-Term Stewardship of Environmental Remedies: Contaminated Soils and Water and STEM Workforce Development

Worlds
Ahead

Advancing the research and academic mission of Florida International University

FIU Personnel and Collaborators

Program Director: Leonel Lagos

Program Manager: Ravi Gudavalli

FIU Faculty/Staff: Walter Quintero, Clint Miller, Angelique Lawrence, Anthony Abrahao, Pieter Hazenberg

DOE-EM Fellows: Alejandro De-La-Novela, Aris Duani Rojas, Aubrey Litzinger, Aurelien Meray*, Brendon Cintas, Bryan Torres, Bryant Pineda, Caridad Estrada*, Carolina Trummer, David Rojas, Desmond Sinnott*, Douglas Baptiste, Fabiola Rivera-Noriega, Gabriel Cerioni, Hannah Aziz, Joel Adams, Josue Estrada Martinez, Kirsten Olson*, Mariah Doughman*, Melanie Szybel*, Nicholas Espinal, Philip Moore, Phuong Pham*, Rafael Velasquez, Roger Boza*, Rohan Shanbhag*, Sebastian Story*, Stevens Charles*, Theophile Pierre

DOE-LM Fellows: Olivia Bustillo*, Shawn Cameron

DOE-EM: Genia McKinley, Jean Pabon, Junita TurnerMary, Ann Maloney

DOE-LM: Carmelo Melendez, Jalena Dayvault

DOE National Laboratories, Sites, Contractors

*Former staff/student contributors



Project 4: DOE-FIU Science & Technology Workforce Development Initiative

Overall Needs:

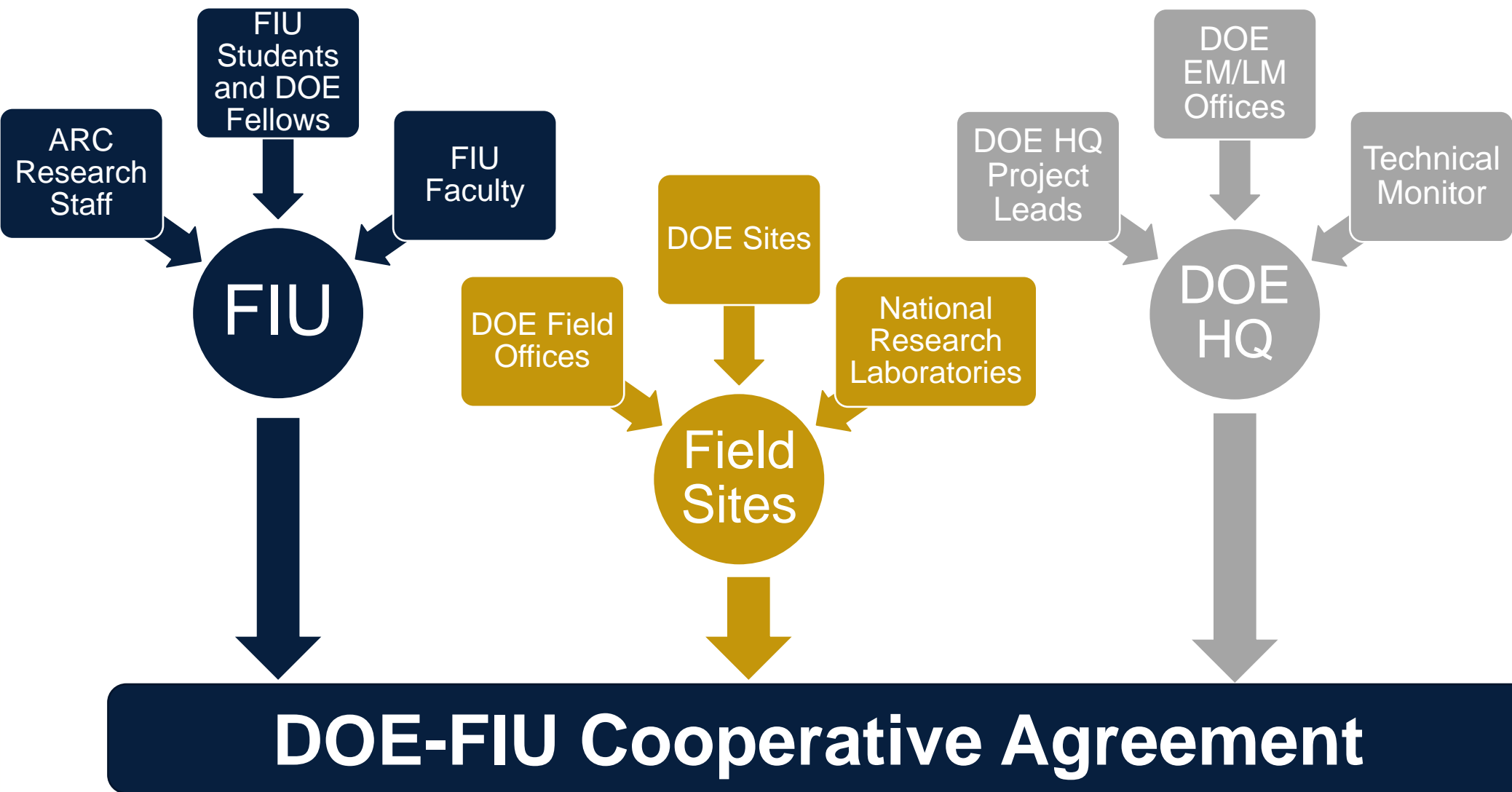
- There is a national need for more careers in science, technology, engineering and mathematics (STEM). The lack of the STEM workforce is felt at the federal government and private industry.

Objectives:

- The DOE-FIU Science and Technology Workforce Development Program has been designed to build upon the existing DOE-FIU relationship by creating a “pipeline” of minority engineers specifically trained and mentored to enter the Department of Energy workforce in technical areas of need.
- The Program provides interested students with a unique opportunity to integrate course work, DOE fieldwork, and “hands on” research at FIU into a well-structured academic program.



Cooperative Agreement Team



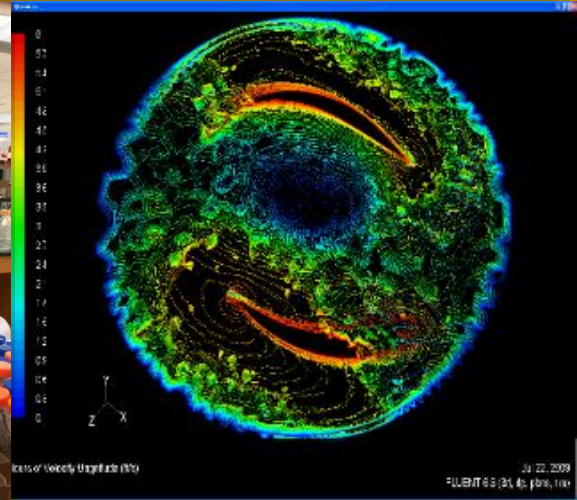
DOE Fellows Program Components



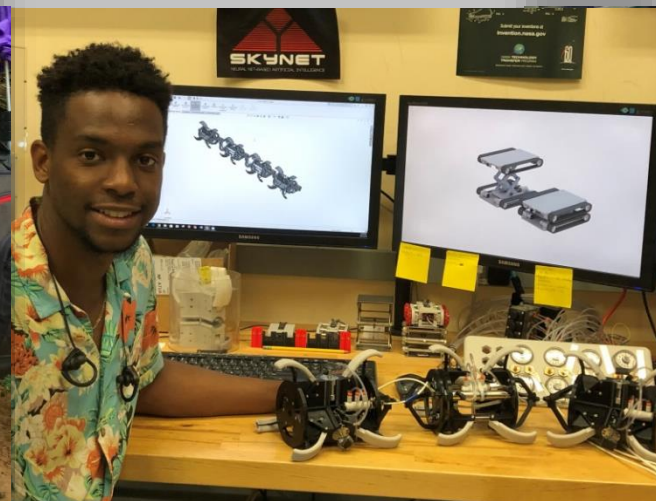
FIU

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Engaging in Technical Research at FIU



20 hours per week at
FIU ARC





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FIU Year 3

Highlights & Accomplishments



FIU Year 3 Highlights & Accomplishments:

- Conducted recruitment campaigns and selected **11** FIU students to join the programs
- **31** Fellows supported FIU scientists and engineers in the development of the technical work
- Conducted induction ceremony and inducted DOE Fellows Class of 2022 (**10**)
- **14** summer internships were conducted across the DOE complex, including 1 LM Fellow Internship
- **18** DOE Fellows participated and presented posters during DOE Fellows Poster exhibition



DOE-EM Fellows Introduction Ceremony

Alejandro De La Novela

Aris Duani

Bryan Torres

Carolina Trummer

Douglas Baptiste

Gabriel Cerioni

Hannah Aziz

Kirsten Olson

Melanie Sztyle

Rafael Velasquez



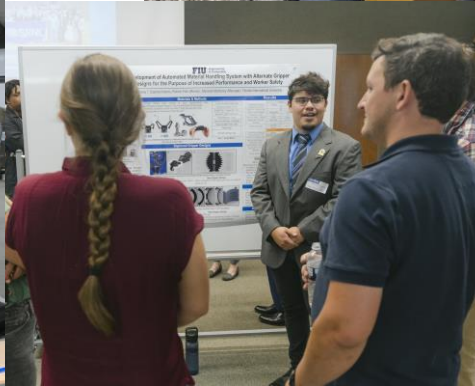
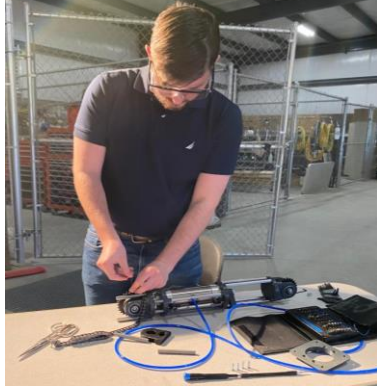
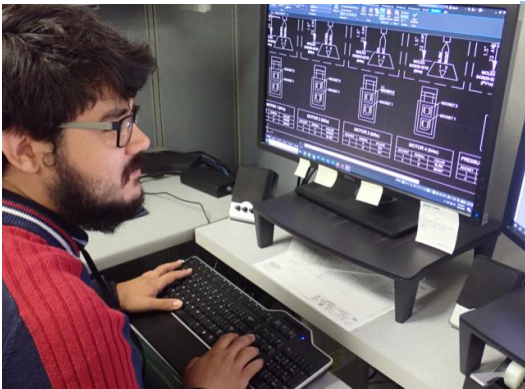
Newly inducted DOE Fellows – Class of 2022

Summer 2023 Internship Program (SIP)

Name	Location
Alejandro De-La-Noval	SRNL
Aris Duani Rojas	PNNL
Aubrey Litzinger	LBNL
Brendon Cintas	WRPS
Bryan Torres	SRNL
Gabriel Cerioni (MSIPP)*	SRNL
Hannah Aziz	SRNL
Joel Adams*	ERDC
Josue Estrada	WRPS
Nicholas Espinal	SRNL
Olivia Bustillo*	UCOR
Philip Moore	WRPS
Rafael Velazquez*	INL
Shawn Cameron	Mexican Hat/Ship Rock

"Rafael is doing a very good job supporting our Calcine project. He has been a valuable contributor in meeting our project goals."

Kevin L. Young, Idaho Environmental Coalition – ICP



Conference Participation and Presentations

Waste Management 2023 (WM23) Symposia

- 14 DOE Fellows attended and participated at the WM2023 Symposia.
- 3 DOE Fellows, **Nicholas Espinal, Olivia Bustillo and Phuong Pham** were awarded Roy G. Post foundation scholarships.
- DOE Fellow, **Olivia Bustillo and Dr. Ravi Gudavalli** won the best poster for Track 7 - Environmental Remediation.
- DOE Fellows, **Aubrey Litzinger and Caridad Estrada, and Olivia Bustillo**, participated in panel sessions.



Building the Pipeline - DOE Fellows Joining the Workforce



Josue Estrada
WRPS



**Sebastian
Story**
**Los Alamos
Nat. Lab/NNSA**



Phuong Pham
SRNL



**Mariah
Doughman**
PNNL



Olivia Bustillo
EM
**Presidential
Fellow/UCOR**

2023

Building the Pipeline - DOE Fellows Joining the Workforce



**Silvina Di
Pietro
NNSA/LLNL**



**Juan Morales
SRNL/US Navy**



**Jeff Natividad
WRPS**



**Gisselle
Gutierrez
Kimley-Horn
and Associates,
Inc.**



**Tristan
Simoes-Ponce
SRNL**



2020-2022

Building the Pipeline - DOE Fellows Joining the Workforce



**Hansell
Gonzales-Raymat
SRNL**



**Rosa Ramirez
DOE-HQ**



**Stephen Wood
ORNL**



**Nicole
Anderson
NETL**



**Adamandios
Manoussakis
SNL**



**Charles Castillo
ORNL**

Building the Pipeline - DOE Fellows Joining the Workforce



Edgard Espinosa
DOE-HQ



Merlin Ngachin
ANL



Rubymir Romero
Bechtel Power



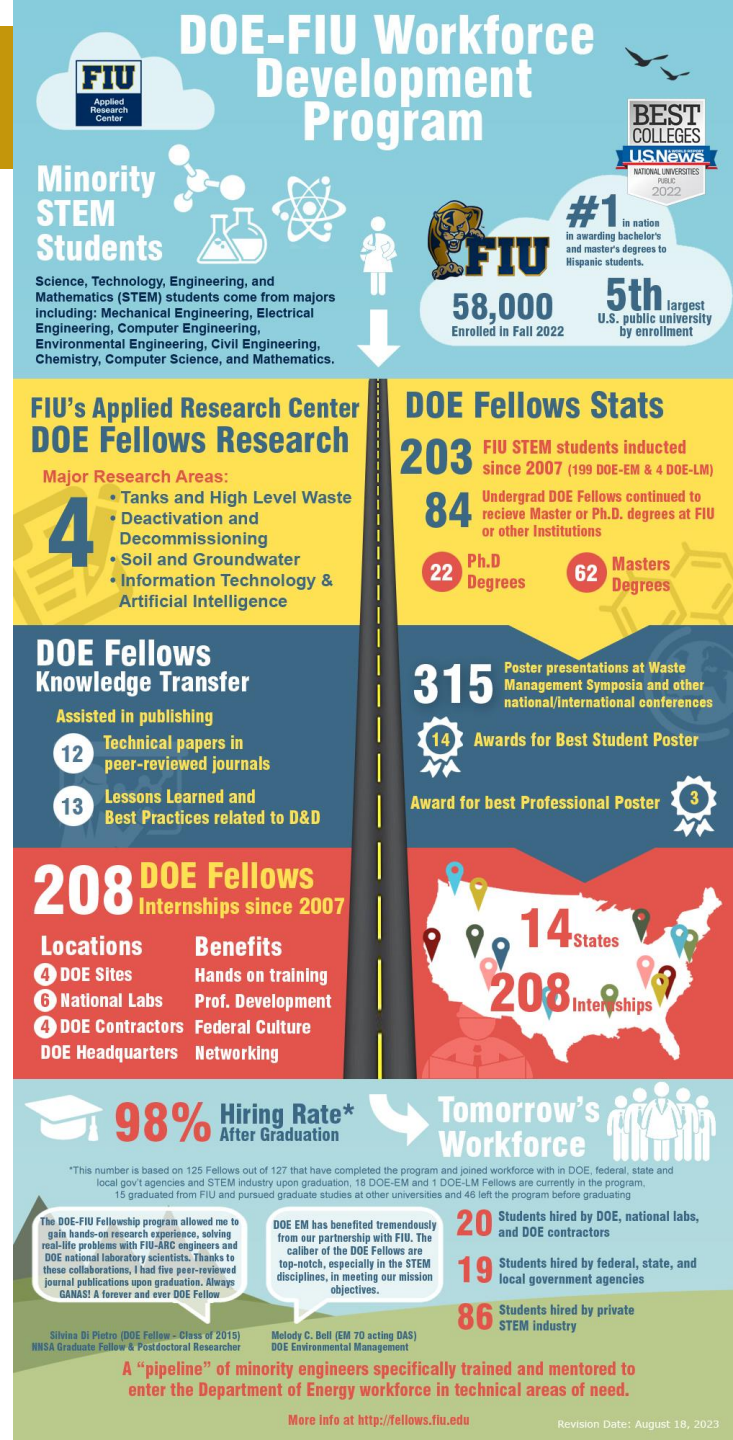
Lee Brady
DOE-HQ



Duriem Calderin
PNNL

Overall Accomplishments

- **203 FIU STEM** minority students (graduates and undergraduates) have been inducted as DOE Fellows since program inception.
- **20** DOE Fellows hired throughout the DOE Complex: DOE EM HQ (3), DOE national laboratories (14), NNSA (1), and DOE EM contractors (2).
- **19** Fellows have been hired by other federal, state or local governments including: Dept. of Defense, NASA, Army Corp of Engineers, Dept. of Commerce, Florida Dept. of Environmental Protection, DERM, Dept. of the Navy (NAVSEA).
- **86** DOE Fellows graduated FIU with bachelor's or master's degrees and obtained employment in STEM industry.
- **15** DOE Fellows graduated FIU and pursued graduate STEM degrees at other major Universities (MIT, Virginia Tech, Georgia Tech, Stanford, etc.).
- **19** are still pursuing their respective degrees at FIU and continue to be part of the DOE Fellows Program.
- DOE Fellows graduate FIU and immediately obtain employment with federal government, state/local government and STEM industry in general. The hiring rate upon graduation is approximately 98%.



FIU Year 4 Projected Scope

Active hands-on research assisting ARC scientists/engineers during the execution of DOE-EM research in order to integrate education with practical experience in the DOE-EM problem areas.

- Recruit qualified talented FIU minority STEM students
- Engage in DOE-EM research under the technical projects
- Conduct poster exhibition & competition
- Host DOE Fellows induction ceremony
- Coordinate summer internship program and internship technical reports
- Conference participation & presentations, including WM Symposia, American Nuclear Society, American Geophysical Union (AGU), Remplex
- DOE-EM HBCU collaboration/interactions - extend recruitment to include HBCU/MSI students interested in a Ph.D. at FIU
- Work closely with DOE nat. labs to identify opportunities for Ph.D. students including extended work assignments that can lead to post-doctoral positions



Project 5: Long-Term Stewardship of Environmental Remedies: Contaminated Soils and Water and STEM Workforce Development

FIU Year 4 Projected Scope

Active hands-on research assisting ARC scientists/engineers during the execution of DOE-LM research in order to integrate education with practical experience in the DOE-LM problem areas.

Task 1: Use of Apatite for Uranium Sequestration at Old Rifle Site

- Study the desorption mechanism of U from apatite at various environmental conditions

Task 2: Climate Resiliency Studies for Long-Term Surveillance of DOE-LM Sites

Task 2.1: Sensor Integration and Data Analysis

- Increase the developed GPR robot's Technology Readiness Level (TRL).
- Evaluate higher penetration GPR antennas.

Task 2.2 Extreme Event Characterization and Modeling **NEW**

- Develop hydrological model.
- Integrate drone and GPR observations.

Task 3: STEM Workforce Development

- Recruit qualified, talented FIU minority STEM students.
- Engage in DOE-LM research under the technical projects.
- Conduct poster exhibition & competition.
- Host DOE Fellows induction ceremony.
- Coordinate summer internship program and internship technical reports.
- Conference participation & presentations, including WM Symposia & American Geophysical Union (AGU).





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DOE-FIU Cooperative Agreement

Upcoming Events Announcement



FIU

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DOE Fellows Poster Exhibition



FIU

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17th Annual

DOE FELLOWS POSTER EXHIBITION

NOVEMBER 7, 2023

1 pm – 4 pm

FIU ENGINEERING CENTER

PANTHER PIT

A STEM WORKFORCE DEVELOPMENT PROGRAM

SPONSORED BY

THE U.S. DEPARTMENT OF ENERGY

fellows.fiu.edu





Save the Date

DOE-FIU Science & Technology Workforce Development Program's

17th DOE Fellows Induction Ceremony *Annual* (Class of 2023)

Host: Applied Research Center, Florida International University

When: Wednesday, November 8, 2023 at 12:00 pm

Where: FIU Modesto Maidique Campus
Graham Center (GC) Ballroom
11200 SW 8th St, Miami, FL 33174



*A collaboration between the U.S. Department of Energy's Office of Environmental Management
and Florida International University's Applied Research Center*





Thank You. Questions?