

**AIMBE AC  
Fireside Chat**  
July 28, 2020

**Ranu Jung**  
rjung@fiu.edu



## Miami

65% Hispanic/Latinx  
18% Black/African-American

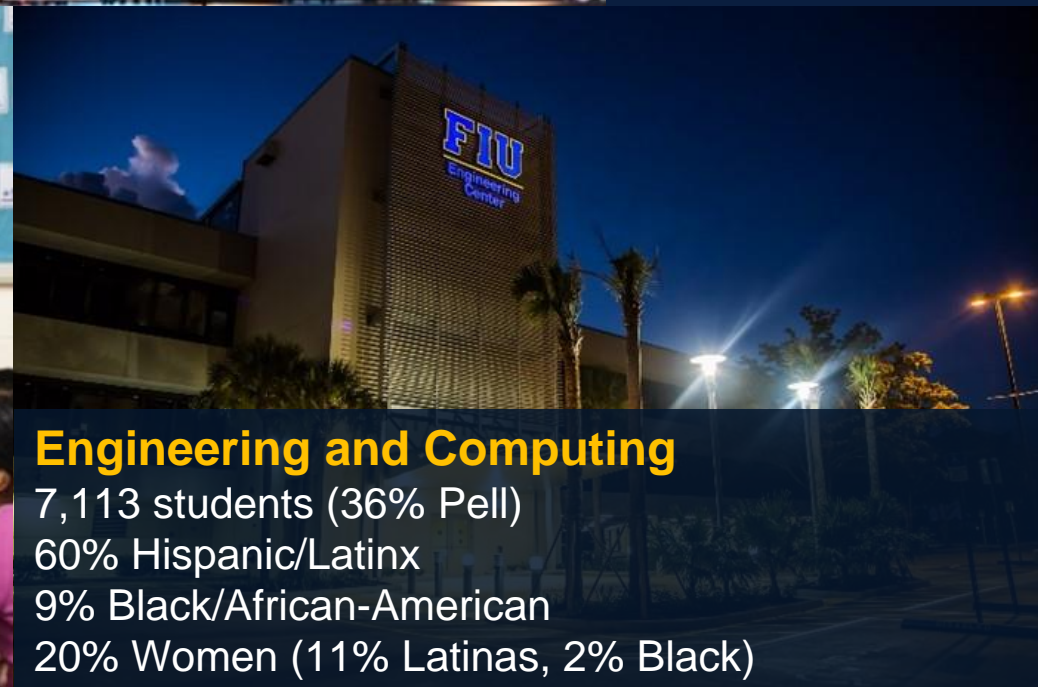
## Miami-Dade County Public Schools

5<sup>th</sup> largest public school district in the US  
71% Hispanic/Latinx  
20% Black/African-American



## FIU (R1 Public / Community Engaged)

58,787 students (33% Pell)  
64% Hispanic/Latinx  
12% Black/African-American  
57% Women (36% Latinas, 7% Black)



## Engineering and Computing

7,113 students (36% Pell)  
60% Hispanic/Latinx  
9% Black/African-American  
20% Women (11% Latinas, 2% Black)

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& Computing**

Biomedical Engineering



# Demographics for the Academic Year 2019-2020

401

Total Number of  
Students

176

Females

225

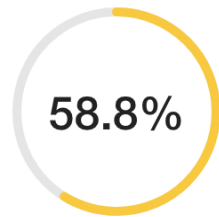
Males

331

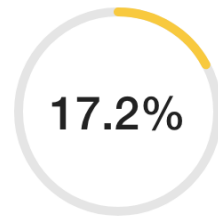
Undergraduates

70

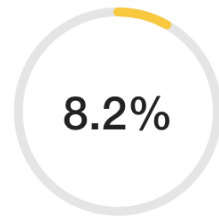
Graduates



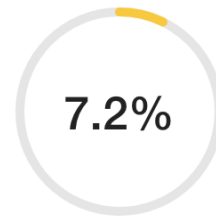
Hispanic/Latino



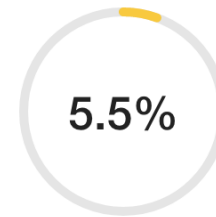
Non-resident  
Alien



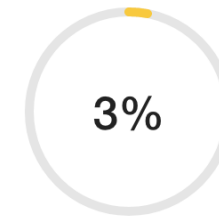
White



Black/African-  
American



Asian



Two+ Ethnicities

## Biomedical Engineering

35% Pell

59% Hispanic/Latinx    7% Black/African-American    44% Women (24% Latinas, 3.5% Black)

#1 for bachelor's degrees awarded to  
Hispanics

#6 in bachelor's degrees awarded to  
African Americans

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# Engineering Deans Council (2015-2016)

## ASEE – Letter of Commitment (January 2017)

- **1. Develop a Diversity Plan for engineering programs:** articulate the definition and the vision of diversity and inclusiveness for the institution; assess its need or justification; provide a statement of priorities and goals; commit to equity, implicit bias and inclusion training across the school; define accountability; and the means of assessing the plan through various means including surveys.
- **2. Commit to at least one K-12 or community college pipeline activity** with explicit targeted goals and measures of accountability aimed at increasing the diversity and inclusiveness of the engineering student body in our institution.
- **3. Commit to developing strong partnerships between research-intensive engineering schools and non PhD granting engineering schools serving populations underrepresented in engineering.**
- **4. Commit to the development and implementation of proactive strategies to increase the representation of women and underrepresented minorities in our faculty.**

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# Office to Advance Women, Equity & Diversity

**FIU ADVANCE**

increase, retain and promote more women and underrepresented minority faculty at FIU.



**Kenneth G. Furton, Ph.D.**  
FIU Provost, Executive Vice President, Chief Operating Officer; Professor [...]



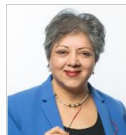
**Suzanna Rose, Ph.D.**  
Associate Provost, Office to Advance Women, Equity & Diversity; Professor [...]



**Yesim Darici, Ph.D.**  
Assistant Provost, STEM; Director of Center for Women's [...]



**Michael Heithaus, Ph.D.**  
Dean, College of Arts, Sciences & Education; Professor of Biology



**Ranu Jung, Ph.D.**  
Professor and Department Chair, Wallace H. Coulter Eminent Scholars [...]



2016

Gender-by-ethnic biases; microclimates  
Evidence-based intervention programs  
University-wide diversity, equity & inclusion

AWED Theater

Bystander Leadership

Diversity Mentor Professorships

Diversity Plans

Equity Advisors

Faculty Fellows

Faculty Mentor Program

Social Science Research

STRIDE/Diversity Advocates

Women Faculty Leadership Institute

HOME / PROGRAMS

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STRIDE - Strategies and Tactics for Recruitment to Increase Diversity and Excellence  
 Hiring/Faculty Recruitment Workshop (Search committee members)  
 Diversity Advocate Workshop (Designated faculty on search committee)  
 Tenure & Promotion Workshop (College committee, Chairs, Deans)  
 Hiring leaders workshop (Dean & Above)

Bystander Leadership - from “insight” to “action” - address gender and race bias within faculty interactions.

Notice the event  
 Interpret the Problem  
 Lead by assuming responsibility  
 Decide how to respond  
 Act

AWED Theater  
 interactive, educational theater program  
 addressing multicultural intersectional  
 identities characteristic of FIU, Hispanic-  
 serving institutions, and the region as a whole

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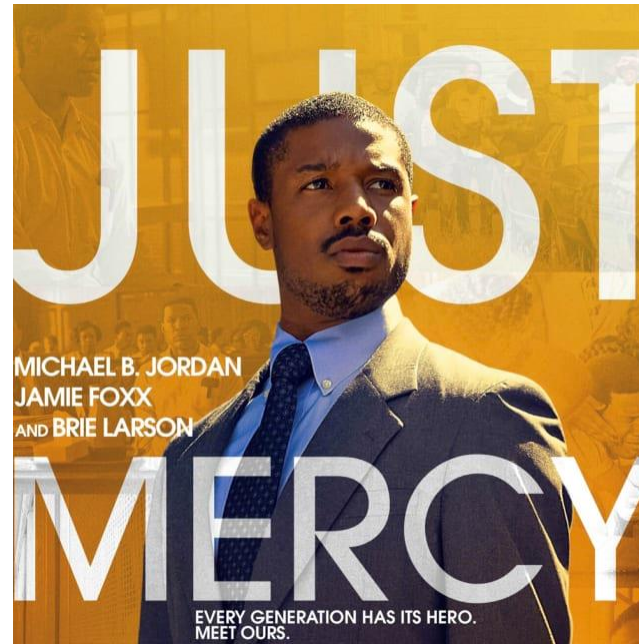
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Politics, Law & Society

## FIU hosts 'I Can't Breathe: Racial Unrest in America in the Wake of George Floyd's Death'



Politics, Law & Society

## 'Just Mercy' explores racial bias, inequality in U.S. criminal justice system

Politics, Law & Society

## Black lives matter: Voices of the community



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# Diversity and Inclusion Plans

## Strategy

Academic Affairs, Colleges, and departments will create diversity and inclusion action plans. Plans should be feasible, specific, and achievable. Deans (and Chairs and faculty liaisons) will be accountable for meeting planned goals.

## Key Goals to Achieve

1. To increase the representation of faculty from historically underrepresented groups (URGs), such as women in STEM, African-American and Hispanic-American faculty in all fields.
2. To provide an equitable and supportive institutional climate for underrepresented groups ie, women, racial/ethnic minorities, LGBTQ+ people, and persons with disabilities) at the faculty and graduate and undergraduate student levels.
3. To ensure a welcoming environment for all faculty, students, and staff.

# BME Diversity and Inclusion Plan

## Faculty

# Conclusion Plan

Report Form					
Item#	ACTION ITEMS	Person responsible	Goals and Metrics	AWED feedback 2018-2019	2019-2020 Actual Outcomes- return to AWED by June 30, 2020
	Submitted by/Comments by			Suzanna Rose	
	FACULTY				
5	STRIDE best practices attendance requirement for faculty search members (once every 3 years)	Chair	All BME faculty members of search committees complete STRIDE training (offered by AWED). In 5 years, all BME faculty members should complete the STRIDE training workshop.	Based on what AWED sent you for 2018-2019 to report in Column E, 3 faculty met the STRIDE requirement in 2018-2019 to serve on search committees	No BME Faculty search. Completed 2019: Sharan Ramaswamy
6 (new required priority for 2020-2021)	Diversity Advocate (DA) training for one member of each search committee (once every 3 years)		Diversity Advocates will complete the Diversity Advocates training offered by AWED.	James Schummers completed the DA training.	No BME Faculty Search.
7 (new in 2020-2021)	NSF Bystander Leadership Program participation.		All BME faculty should complete the Bystander Leadership training by 2023 (offered by AWED).	Congratulations! Seven BME faculty have completed Bystander.	Refresher: Jung
	Hiring/Search Committees(report separately for each search committee)				



## Graduate Students

REU – Diversity Training  
**Equity vs. Equality**  
 (by race, class, gender, etc.) within  
 research/ STEM opportunities.

Item#	ACTION ITEMS	Person responsible	Goals and Metrics
36	Develop diversity plan to recruit diverse students	Graduate Committee; Marketing Staff	(1) Evaluate the gender and racial/ethnic diversity of graduate students
			(2) Require faculty who are funded to attend national URM-focused meetings (see above) to provide targeted recruitment efforts at these meetings.
37	Establish diversity awards and recognition for graduate students		# and date of award
38	Develop plan to improve social climate, e.g., establish mentoring and networking opportunities		(1) Annual discussion with graduate students about diversity & Inclusion (2) Departmental financial support for women, URM and LGBTQA graduate student networking events.
38-1	mentoring graduate students		(1) Require all doctoral graduate students to develop a diversity plan statement as part of their proposal exam (2) Launch a “Women of BME” program that supports mentorship of female graduate students.

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# Departmental Climate



**MANU PLATT**

Dr. Manu Platt received his B.S. in Biology from Morehouse College in 2001 and his Ph.D. from the Georgia Tech and Emory joint program in biomedical engineering in 2004. He finished his postdoctoral training at MIT in orthopedic tissue engineering and systems biology prior to returning to Georgia Tech and Emory in the joint Department of Biomedical Engineering in January 2009, where he has since been an assistant professor. His research focuses on mechanistic mechanisms of tissue remodeling during disease progression using both experimental and computational approaches. These diseases of focus are health disparities in the U.S., but global health concerns: postnatal strokes in sickle cell disease, personalized and predictive medicine for breast cancer which has taken hold in Ethiopia and collaborative work to find solutions for low resource settings. His work has been funded by NIH Director's New Investigator Award, International AIDS Society, Georgia Cancer Coalition, and the National Science Foundation. He was named an Emerging Scholar by Georgia Institute of Higher Education in 2015, the Atlanta 40 under 40 by the Atlanta Business Chronicle in 2016, and the BME Diversity Award and Lecture in 2017.

**BRINGING DIVERSITY INTO THE LECTURE SERIES**

**ATT**

**nt Emory University**

**ting Now**

a fear of walking the path of students/undergrads and inclusion of parents and family get along" and "not a. Platt will challenge the status. Often, if of a particular matter well past, the power and the best identity, the ed being intentional ones. Now.

ntices Pitt

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Miami, FL 33174  
bme@fiu.edu  
@fiubiomed

**WALLACE H. COULTER**  
Foundation

Friday, February 8, 2019  
4:00-5:00 PM  
Reception to follow



Item#	ACTION ITEMS	Person responsible	Goals and Metrics
47-1	Take steps to improve the department's climate	Chair	(1) Revise (add) the departmental mission statement to include language regarding diversity, equity & inclusion for faculty, students and staff.
			(2) Annual discussion with the faculty and staff about climate.
			(3) Require all faculty to provide an annual diversity statement
49	Colloquium Series -Diversity (specific commitment, e.g., diversity speaker or topic twice per academic year)		Include at least four women and URM speakers in the WH Coulter seminar series per year.
51	Initial review and schedule of review of departmental web and print matter and news stories for D&I content		Evaluate all media publications and the BME web site
52	Continuing review of public face of department		Publish at least 4 "stories" on BME web page about accomplishments of women and URM faculty/staff/students.

**BME Conversations**  
2020 – “Black Lives Matter”



# WOMEN of CEC

Launched -2016

## Women in BME



## Women in Engineering

### WOMEN of CEC

The Women of CEC is an initiative launched by the college to increase the number of women pursuing STEM careers, particularly in engineering. Although women fill nearly half of all jobs in the U.S. economy, they hold less than 25 percent of STEM jobs. The Women of CEC initiative consists of:

**Kick-off luncheons:** Held in the fall and spring to demonstrate to new students that the college is fully invested in their success.

**PCA Women in Engineering Forum:** Held in the fall for this corporate partner to meet and recruit female students.

**JP Morgan Chase Women in Engineering Forum:** A spring event that includes a panel discussion with four female executives and students.

**Breaking Barriers:** A monthly online feature highlighting women engineers, computer scientists and construction professionals paving the way for women in the field.

### WOMEN in Advising

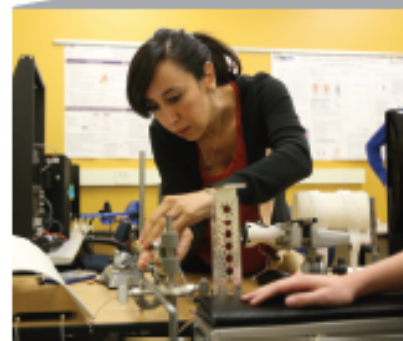
The Engineering Advising Center is committed to helping future engineers, including female students, succeed. The staff is made up of 75 advisors, 12 of whom are women. Meet one of them.



**Carmen Schenk:**

As a child, Carmen was always fixing things that didn't work, and even taking them apart so she could put them back together again. She also excelled at math and science, so a career in mechanical engineering made sense, but it would take her years to reach her goal. Growing up in Caracas, Venezuela, she worked full-time through high school to help out her single mom with the family's bills. Any money left over, she'd save for college. When she graduated from high school, she went to England to learn English while attending school as a study-abroad student. She then came to the U.S. and spent some time on the West Coast, where she attended a community college and UC Berkeley for pre-engineering before coming to Miami to be closer to her mom, who still lived in Venezuela.

Carmen graduated from FIU with both her bachelor's and master's degrees in mechanical engineering. Undeterred, it took her many years, but at age 29, this first-gen student finally achieved her dream. Shortly after graduation, she was offered a job at CEC in Advising, with the opportunity to teach – a role she's had for close to 24 years. As a senior instructor and advisor, Carmen teaches Intro to Engineering, and advises students on their class schedules and career paths. She also encourages students struggling and the ones who want to give up, emphasizing the importance of education. Carmen has been married for 21 years. She and her husband have one son who's following in her footsteps. He's graduated summa cum laude and is now pursuing mechanical/aerospace engineering at University of Florida, and he has already completed an internship at NASA.



#### Breaking Barriers

Liliana Rincon Gonzalez is a biomedical engineering research scientist. With a background in engineering, neuroscience and psychology, she mentors several undergraduate and graduate students. She is also the research coordinator for a DARPA-supported first-in-human trial for a novel neural implant device to restore sensation to upper limb amputees. She works with all the regulatory aspects of the project, ensuring compliance, and obtaining approvals from the Institutional Review Board. Once amputee volunteers have enrolled in the study, Rincon Gonzalez will conduct several novel scientific studies on the restoration of sensory perception.



Corporate – Design Challenges  
Corporate - Speaker Series  
Web-Stories – Breaking Barriers  
K-12 STEM outreach

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# Our K-12 Story: Comprehensive Program at Scale

## Awareness & Engagement



## Competency & Knowledge Dissemination



## Early College Education



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## Engagement & Awareness

- Engineering Expo
  - Engineers on Wheels
- = ↑ engagement

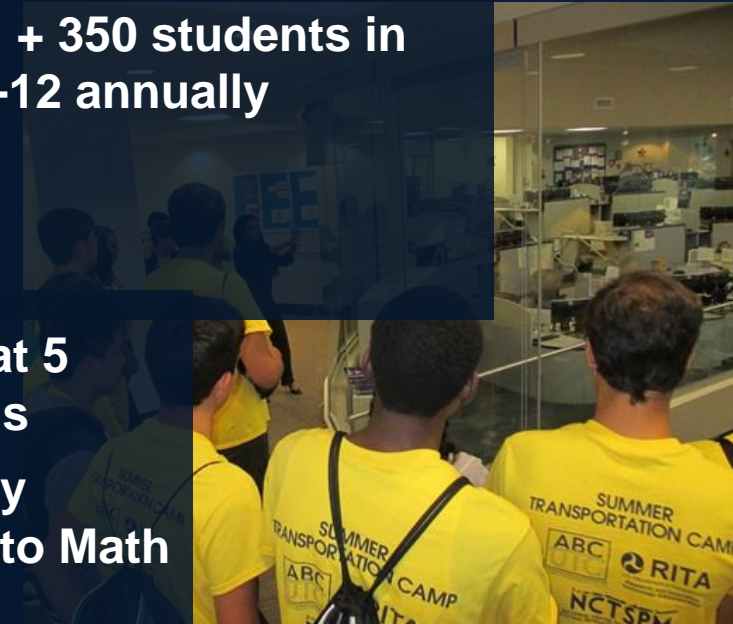
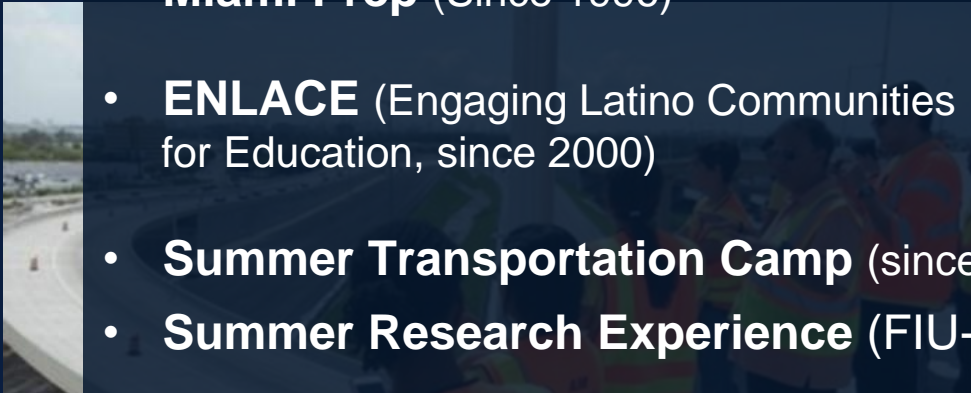


## Competency and Knowledge Dissemination

- Miami Prep (Since 1996)
- ENLACE (Engaging Latino Communities for Education, since 2000)
- Summer Transportation Camp (since 2015)
- Summer Research Experience (FIU-wide)

5-week summer program for  
grades 3-12; pre and post tests  
19 years; + 350 students in  
grades 4-12 annually

- After School Programs
  - Math AP Tutoring (The Algebra Project)
- = 14 years; 200 students at 5  
local elementary schools  
5 high schools, Saturday  
classes Projects linked to Math



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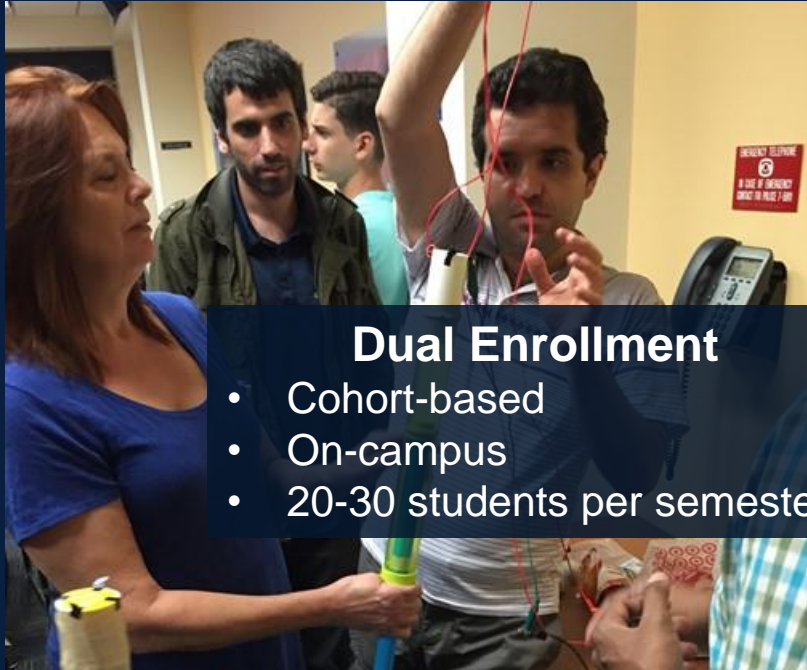
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# College Credit & Teacher Training



## Dual Enrollment

- Cohort-based
- On-campus
- 20-30 students per semester



## Teacher Training

- Interactive Virtual Training for Early Career Teachers in High Poverty Schools – Dept. of Education (Lisetti)
- Cyber-Enabled Technologies – NSF (Pissinou)
- Paths-Up- ERC (health of underserved populations) - NSF (Ramella-Roman)



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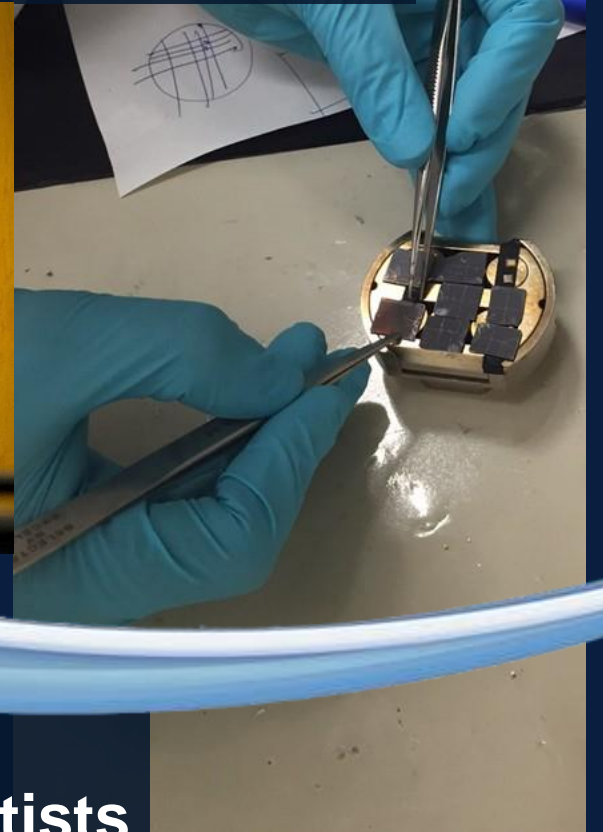
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# At-Scale Laboratory for Implementing and Evaluating Strategies to Propel Students from Populations Underrepresented in STEM

- Meet a need in the community: Engage and Enhance Awareness
- Enhance K-12 in-reach/outreach: Build Competency through Knowledge Dissemination
- Improve Education: Infuse College Curriculum into High Schools; Educate Teachers



**Engaging, Educating and Empowering  
the next wave of engineers and computer scientists**

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Thank You

Ranu Jung  
rjung@fiu.edu

<https://advance.fiu.edu/programs/bystander-leadership/index.html>