

# Impact of Pathways to STEM Careers

An HSI Grant from the  
Department of Education

**UHCL** University of Houston  
Clear Lake



# Dr. Jennifer Irvin



*Dean, College of Science and Engineering*

# *Pathways to STEM Careers (PSC)*

## MISSION

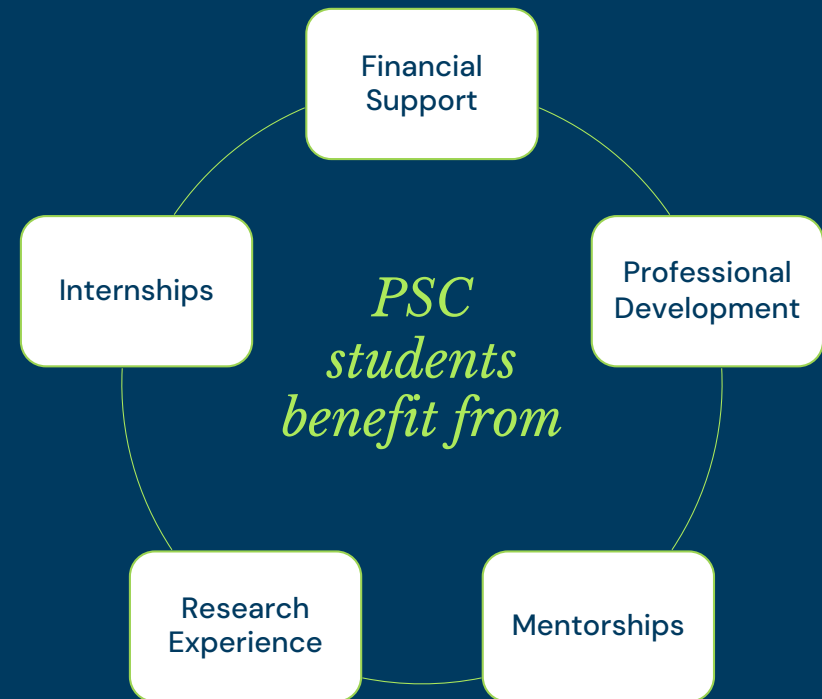
Increases student success & enhance student support for low-income students in the College of Science and Engineering at UHCL.

## FUNDING

Awarded by the Dept. of Education in 2021 with funding until 2026.

## EMPLOYMENT

Grant employs students as peer mentors, research assistants, and interns.



# *Pathways to STEM Careers*

Since 2021, the Pathways to STEM Careers grant has...

Supported more than **130** UHCL students.

Helped **80** students graduate with a STEM degree.

Aided **59** students in obtaining STEM-related internships.

Enabled **30** students to present research at national conferences.

## Success with Retention

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UHCL has been able to retain and keep students employed in PSC with a **GPA of 3.0 or higher for 4 or more semesters.**

# **Student** *Perspectives*

**Alex Alonso**



*Class of 2027*  
*Mechanical Engineering*



# *Pathways to STEM Careers*

## WHY MECHANICAL ENGINEERING?

- Passion for understanding how things work and making them better!

## WHY UHCL?

- Desired degree with affordable tuition.
- Available opportunities such as Pathways for STEM Careers.
- Can focus on research while being employed.



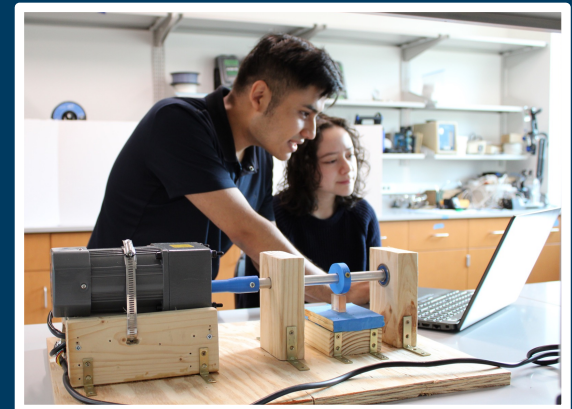
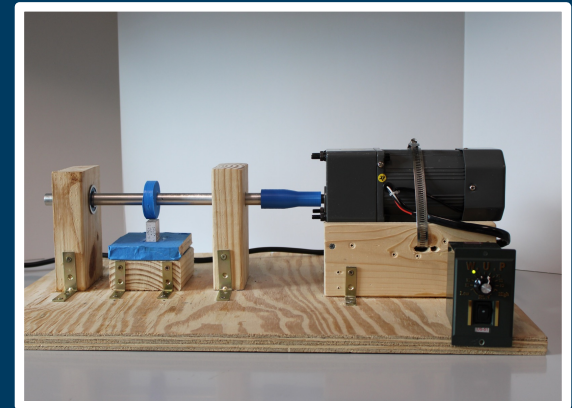
# *Low-Cost Device to Evaluate Biocompatible Resins for Enhanced Spinal Fusion Surgery Success*

## RESEARCH

- Testing new materials for an interbody cage device after spinal fusions.
- Designed and manufactured a low-cost fatigue test machine.

## FUTURE

- Research currently being presented at American Society of Mechanical Engineers conference. Research will continue next semester with PSC funding.





# Christian Vazquez



*Class of 2026*  
*Mechanical Engineering*

# *Pathways to STEM Careers*

## WHY UHCL?

- Close knit community of students, research assistants, and faculty.

## BENEFITS OF PSC

- Material resources and equipment (i.e., 3D printer, machining tools, etc.)
- Mentoring and faculty support.
- Monthly stipend and employment.
- Experience has led to a partnership at Boeing.



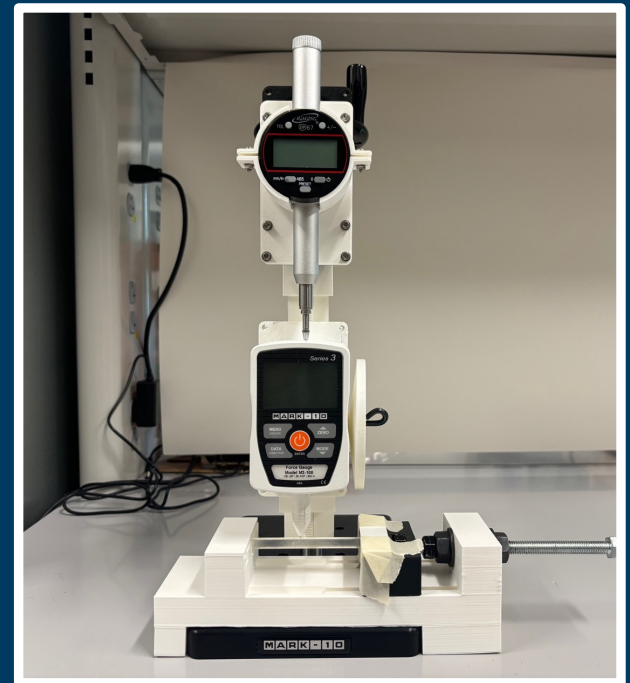
# *Vertical Displacement Shear Force Apparatus*

## RESEARCH

- Measures applied forces and how much beams bend.
- Components designed, tested, and manufactured onsite.
- Provisional patent already approved by patent attorney and published.

## FUTURE

- Primarily for educational purposes. Aimed at students interested in biomedical engineering and materials science.



Pathways to STEM Careers provides  
*opportunities.*

Thank *You.*