



# STEAM AND THE FUTURE OF INTERDISCIPLINARY RESEARCH: Engine of Innovation or a Bunch of Hot Air?

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ASU Graduate College

# The Graduate College at ASU

Elizabeth A. Wentz  
Vice Provost and Dean

# ASU Charter

## ASU Charter

ASU is a comprehensive **public research university**, measured not by whom it excludes, but by **whom it includes** and how they **succeed**; advancing **research and discovery** of public value; and assuming **fundamental responsibility** for the economic, social, cultural and overall health of the **communities** it serves.



# Interdisciplinary research is built-in

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- Interdisciplinary research is built into the research structure at ASU
- Examples:
  - College of Global Futures
  - College of Health Solutions
  - Ira A. Fulton Schools of Engineering examples
    - School of Biological and Health Systems Engineering
    - School of Sustainable Engineering and the Built Environment

## ASU Design Aspiration



### Fuse Intellectual Disciplines

ASU creates knowledge by transcending academic disciplines

# ASU's Interdisciplinary structure

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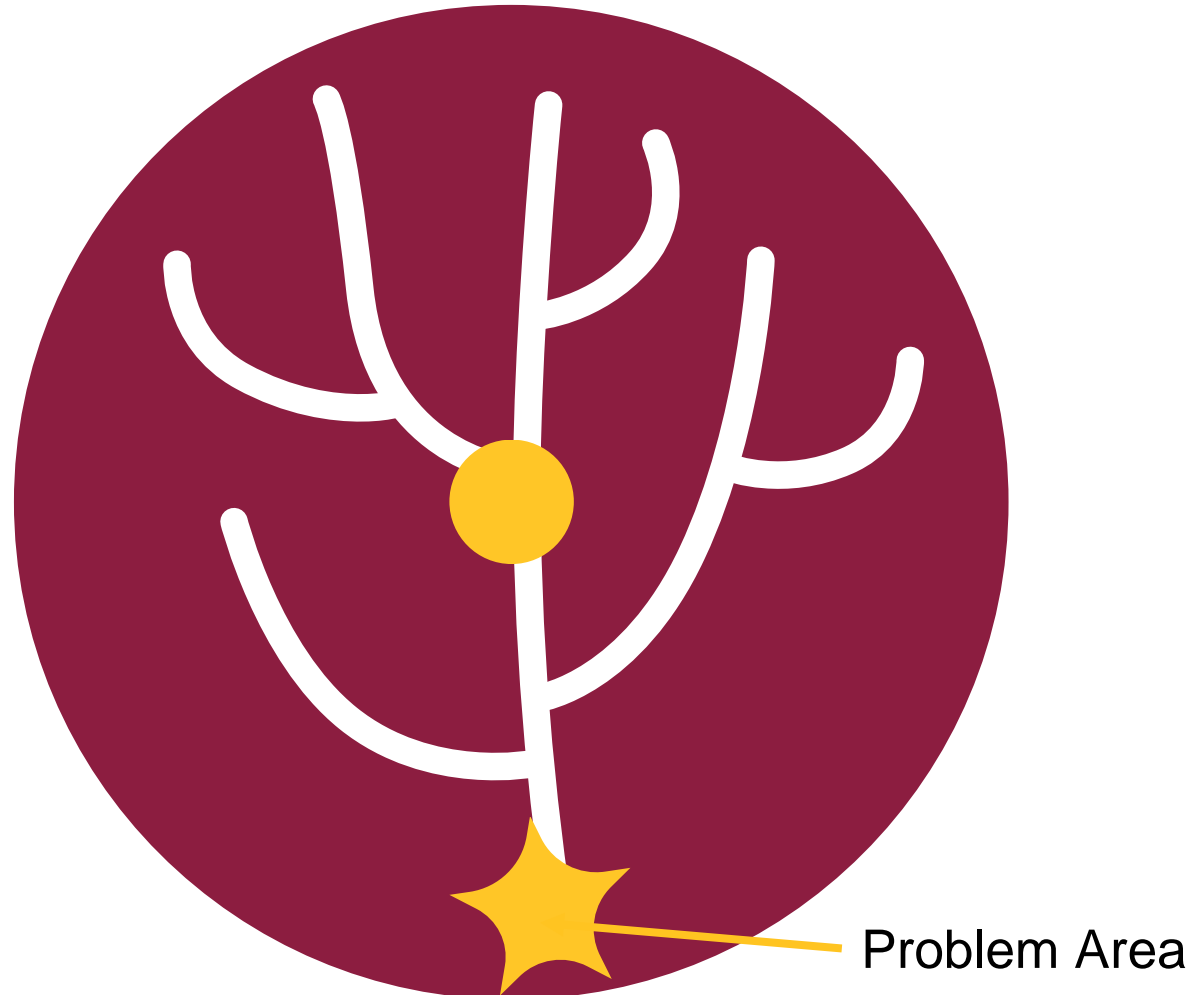
- Reasons people go to graduate school
  - Accelerate career growth
  - Develop new skills and expertise

ASU graduate students report choosing ASU because the interdisciplinary structure makes it an ideal environment for tackling society's biggest challenges.

# Structure enables upstream thinking

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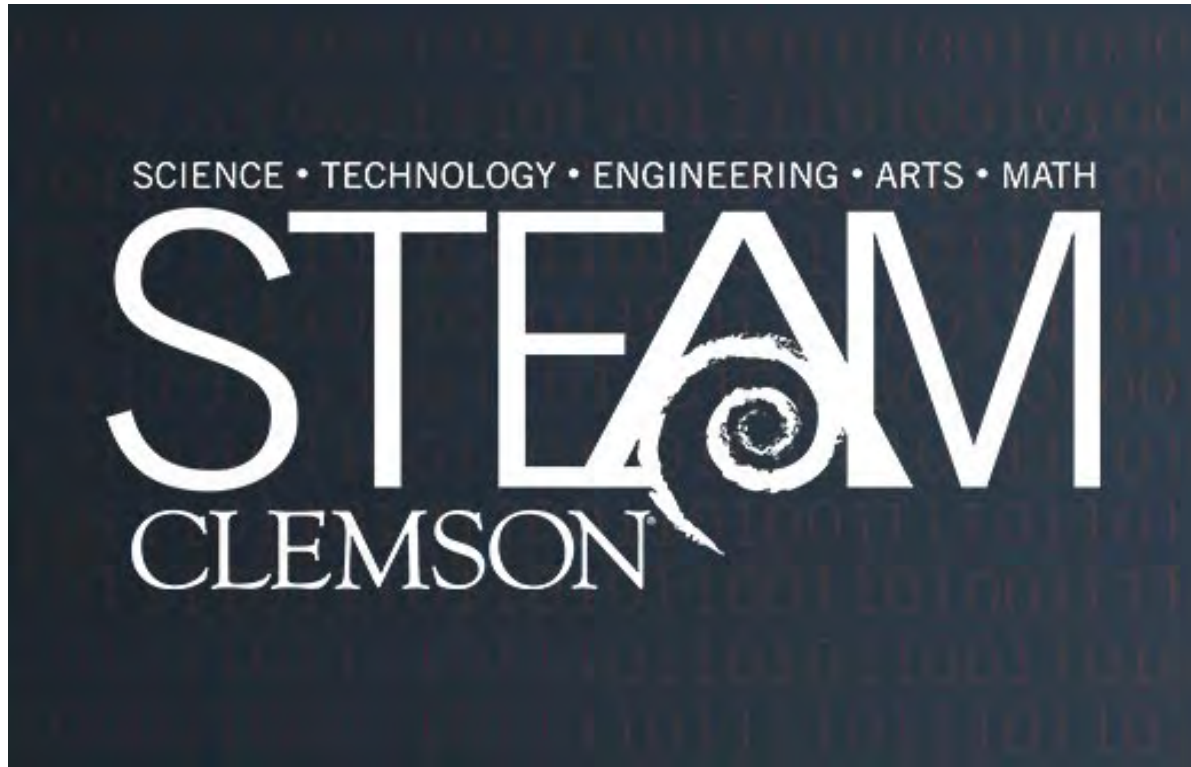
Interdisciplinary structure allows graduate students the ability to pull together threads that enable them to focus more on upstream thinking.



**Thank you!**  
**graduate.asu.edu**

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# Clemson University The STEAM Collective



Vision: **Clemson University** has established an interdisciplinary team of faculty working on **STEAM Initiatives** aimed at increasing the participation of students in **STEM** fields. Our goals include:

- Providing *scalable and sustainable STEAM models*, beginning in elementary school
- Focusing on *underserved and high-needs school districts*
- **Training** cohorts of highly skilled STEAM leaders, inclusive of administrators, teachers and instructional support, to impact student learning
- Offering the first **STEAM Teaching Certification** in the nation
- Utilizing the *collective expertise* of multiple Clemson University colleges and faculty

TRANSFORMATION BEGINS HERE



GRADUATE SCHOOL



# STEAM Initiatives

## Co-Curricular Programming

PEER

WISE

Artisphere

EMAGINE

## Scholarship/Academic Credentialing

Research, models, pubs

Online STEAM grad cert (Ed)

Microcredentials STEAM  
leadership

MS in (STEAM) Communication

TRANSFORMATION BEGINS HERE



GRADUATE SCHOOL

# Enduring Questions



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What are the limitations/advantages to a decentralized institutional model of STEAM initiatives?

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What opportunities are foreclosed on when the “A” is lower case or non-existent in programs for minoritized communities (racial; gender)?

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How do we improve the sustainability of the “A” in STEAM programs?



**STEAM and the Future of Interdisciplinary Research**  
**COUNCIL OF GRADUATE SCHOOLS 61ST ANNUAL MEETING**

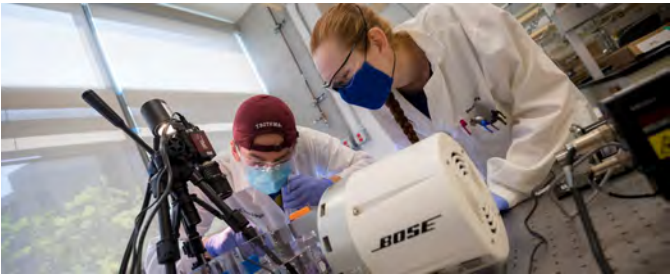
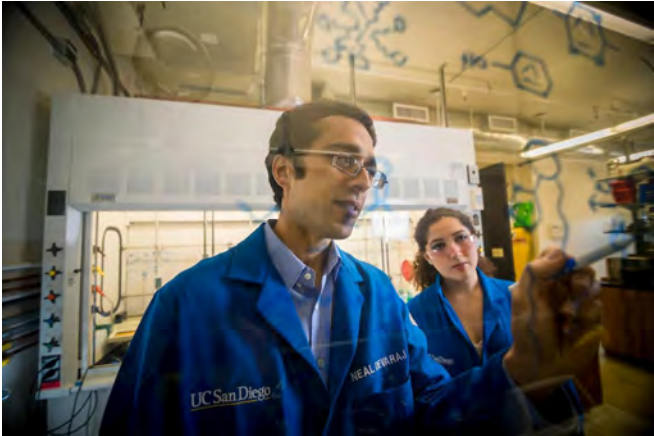
DECEMBER 2, 2021

**UC SAN DIEGO GRADUATE DIVISION**

Dean James Soto Antony



# WHAT IS UC SAN DIEGO?



# STEAM AT UC SAN DIEGO



**S**



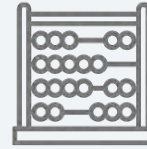
**T**



**E**



**a**



**M**

Our historic struggle -- no shortage of ideas, but the “A” is still lowercase

Challenge we are Tackling: *How to grow the “A” through collective impact?*



# CRITICAL STEPS

**INCENTIVIZE** the “A” through focused cluster hires and P&T policy reform

**CREATE SPACES** to cultivate STEAM



**FOSTER OPPORTUNITIES** (via new cross-disciplinary graduate programs and initiatives) for STEM and non-STEM folks to work collectively