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

James Antony, Dean, Graduate Division, University of California, San Diego
Natasha Croom, Associate Dean, The Graduate School, Clemson University
Elizabeth Wentz, Vice Provost and Dean, Graduate College, Arizona State University
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

• 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

• 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

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

Elizabeth A. Wentz
wentz@asu.edu
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
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
Enduring Questions

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

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

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
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