

The Louis Stokes Alliance for Minority  
Participation at Texas A&M University-  
Corpus Christi: A Mechanism for  
Institutionalizing Undergraduate Research,  
and Strengthening Minority Participation in  
Science

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# Introduction

- What is the Louis Stokes Alliance for Minority Participation?
  - Funded by National Science Foundation (1991-92)
  - Goal is to “increase quantity and quality of students completing science, technology, engineering, and mathematics (STEM) degrees”
  - Phases I and II: Baccalaureate production, Student retention
  - Phase III: Student progression to graduate school (2003)
  - Phase IV: Retain and recruit community college students; student participation in international programs



# Texas LSAMP

- Collaboration with Texas A&M University (“College Station”) and Prairie View A&M begun in 1992
- Directed by Dr. Diana Marinez (bot. rt.), and coordinated by Dr. Suzzette Chopin and Mr. Woody Wingfield



Top: Photo courtesy of Texas A&M University-Corpus Christi.

# Texas A&M University-Corpus Christi

- Founded 1947
- Member of A&M System in 1989 as upper-level institution
- Four-year institution in 1993
- Hispanic-Serving Institution: 38% Hispanic, 4.4% African-American, 0.6% Native Amer.



Photo courtesy of Texas A&M University-Corpus Christi.

## What changes were attempted? What barriers were encountered?

- The primary objective was to use research as a learning tool for students
- The second objective was to present minority students with undergraduate research opportunities.
- The problem was to get faculty “buy-in” to having undergraduates do research
- Undergraduate and minority research allowed faculty one means of increasing research output



# Other barriers

- Heavy teaching load (4/4)
- Lack of research infrastructure
- Lack of student and parent awareness on benefits of research
- Family reluctance for students to travel outside of south Texas for summer programs and for presentations



# How were the barriers overcome?

- Administrative release time granted from 4/4 teaching load
- Faculty wrote NSF-Major Research Initiatives and NSF Minority Institution Infrastructure to obtain funding for large-scale equipment purchases (Typhoon™ Imaging system, NMR, ultracentrifuges)
- Small labs found for small research projects
- Small equipment purchases funded through competitive intramural grants at college and university level



# Early Successes

- Created culture that minority & 1st generation students can do research
- Faculty found that this research was rewarded in professional reviews
- Faculty found that LSAMP students could generate preliminary data for grants
- Exposed students to science in labs



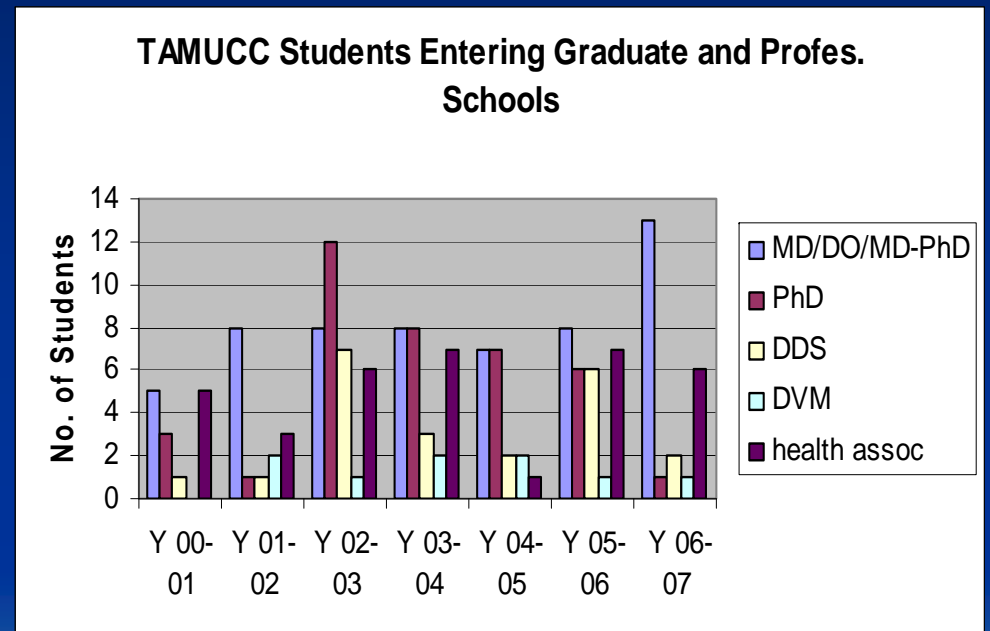
# Early Successes

- Impact is on individual students “one student at a time”
- Helped model other undergraduate research funding
- Office of Undergraduate Research created
- Graduation of 1st generation students
- Students go to Graduate school
- Build students’ self-esteem
- Student presentations at meetings



# Examples of Success

- Expansion into Geographic Information Systems, Computer Sciences, Mathematics, as well as life sciences
- Many students go to graduate or professional school
  - Often after working a few years



# Qualitative Student Successes

- Present examples (right)
  - Adriana Leiva
  - Eileen Quiroz
- Previous examples
  - Donna Alcantara
  - Kimberly James
  - Ashley de la Rosa
  - Sarah Bayer



# Have these efforts led to institutional changes?

- Since 2005-06, development of new labs and core facility
- Development of two new doctoral programs
- Modified teaching loads (PhD faculty, 2/2 or 1/2; MS faculty, 3/3)
- Acceptance of undergraduate research as expectation for new faculty
- Proposed MS in Biomedical Sciences
- Implementation of Office of Undergraduate Research
  - Part of Center for Engagement and Excellence
  - Proposed to develop as Southern Assoc. of Colleges and Schools QEP in 2010



# Current Barriers

- Consistency Across Campuses
  - Funding for student supplies
  - Accountability of students
  - Students should start program as freshman
- Not all majors allowed to participate
  - Pre-meds
  - Psychology
- Increased funding for student supplies
  - \$150 to \$250 per semester not enough



# Concerns and Challenges

- Want more global view
  - Students exposed to solely A&M System
  - Exposure to other LSAMP programs in Texas or elsewhere
  - Have students apply to REUs in other places

