STEM-Minority Outreach and Retention Enhancement (STEM-MORE)

TAMIU
U.S. Department of Education
Promoting educational excellence for all Americans

Project Personnel:

Project Director:
Dr. Rafic (Ray) Bachnak
Professor and Chair
Ph: (956) 326-2408
Email: rbachnak@tamiu.edu

Co-Principal Investigator:
Dr. Dan Mott
Associate Dean/Chair
Ph: (956) 326-2583
Email: dmott@tamiu.edu

Co-Principal Investigator:
Dr. Rohitha Goonatilake
Professor
Ph: (956) 326-2588
Email: harag@tamiu.edu

Co-Principal Investigator:
Dr. Fernando Gonzalez
Assistant Professor
Ph: (956) 326-2582
Email: fernando.gonzalez@tamiu.edu

Co-Principal Investigator:
Dr. Runchang Lin
Associate Professor
Ph: (956) 326-2569
Email: rlin@tamiu.edu

Program Contact Information:
STEM-MORE
C/O Dr. Ray Bachnak
Texas A & M International University
Department of Engineering, Mathematics, and Physics
5201 University Blvd.
Laredo, TX  78041
Email: rbachnak@tamiu.edu, Phone: (956) 326-2440

Texas A&M International University
Objectives:

- To increase the number of students entering STEM majors by 20% each year of the project;
- To achieve an 85% retention rate for project participants (all participants served by the program in a given year will continue to progress toward earning an undergraduate STEM degree during the next year); and
- To increase the five-year graduation rate for STEM majors.

Measurable Outcomes:

- Number of undergraduate STEM students, particularly minority women,
- Percentage of participating students progressing towards earning a degree in a STEM field,
- Percentage of STEM students retained, persisting and graduating within five years of enrolling at TAMIU, and
- Number of Hispanic and other minority middle and high school students who are exposed to STEM career opportunities.

For High School Students:

- **MORE Education and Enrichment Program (MORE-EEP)**
  The goal of this program is to improve the recruitment and preparation of Hispanic and other minority students, particularly women, through participation in summer workshops that improve students’ knowledge in a variety of STEM areas, including mathematics, chemistry, biology, and engineering. Features of STEM-EEP include: 1) Hispanic and other minority sophomores and juniors in high school will attend two-week summer workshops; 2) Workshop sessions will be conducted by discipline-specific instructors with an emphasis on critical thinking and problem-solving skills.

- **MORE Transfer and Retention Program (MORE-TRP)**
  This program will improve the recruitment and retention of highly motivated Hispanic and other minority students in the systems engineering program at TAMIU. A major goal is to facilitate the transfer of LCC students into the Systems Engineering Program at TAMIU by allowing them to take the first two years of core and engineering courses at LCC. LCC students who wish to transfer to TAMIU will be encouraged to participate in a summer engineering design workshop.

Other Projects:

- **MORE High-School Outreach Program (MORE-HOP)**
  TAMIU’s Outreach and Retention Specialists (recruiters) make twice-weekly visits to each campus. For the seven surrounding county high schools, recruiters will visit each campus twice a month. Recruiters are available to meet with prospective students, parents, and guardians.

- **MORE Mathematics Enrichment Program (MORE-MEP)**
  STEM-MORE will provide a pre-freshman camp for incoming Hispanic and other minority students to help them make connections between mathematics and science, to increase success in freshman science and engineering courses, to develop more sophisticated understanding of their own study skills and strengths, and to develop learning communities of peers. Students will need to be on campus a week before Fall semester begins.

- **MORE Internship and Research Programs (MORE-IRP)**
  The internship program offers real-world learning experiences to STEM majors at TAMIU. The undergraduate research program provides laboratory research experience. Interns are placed in private industry or government positions and mentored by the client organization. Research assistants are supervised and mentored by EMAP and B&C faculty members conducting research in computer science, mathematics, biology, chemistry, physics, or engineering.

- **MORE Professional Development Program (MORE-PDP)**
  The professional development program is intended to enhance faculty teaching skills and abilities, and therefore improve the student retention and graduation rates in STEM majors at TAMIU.