

A Study on the Barriers to Student Participation in At-Sea Internships

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Statement of the Problem:

Underrepresented minority (URM) students were applying to the MATE internship program in lower numbers than their non-URM counterparts. In a recent survey of former MATE interns (n = 91), 90% claimed their Internship was a major contributing factor in obtaining employment, being accepted into a higher degree program, or receiving a scholarship or other award. SO WHY DOESN'T EVERYONE APPLY????

Study Methodology:

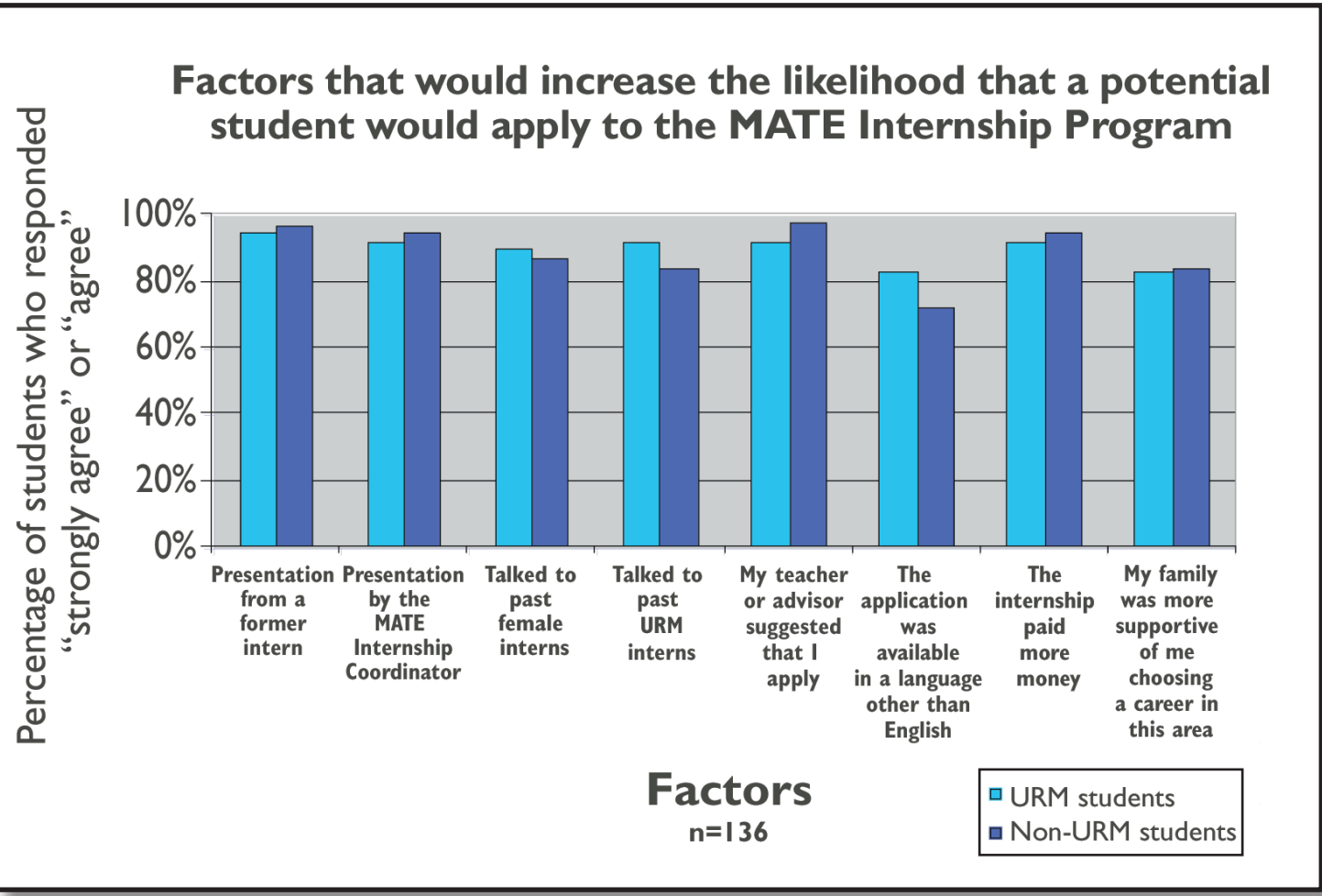
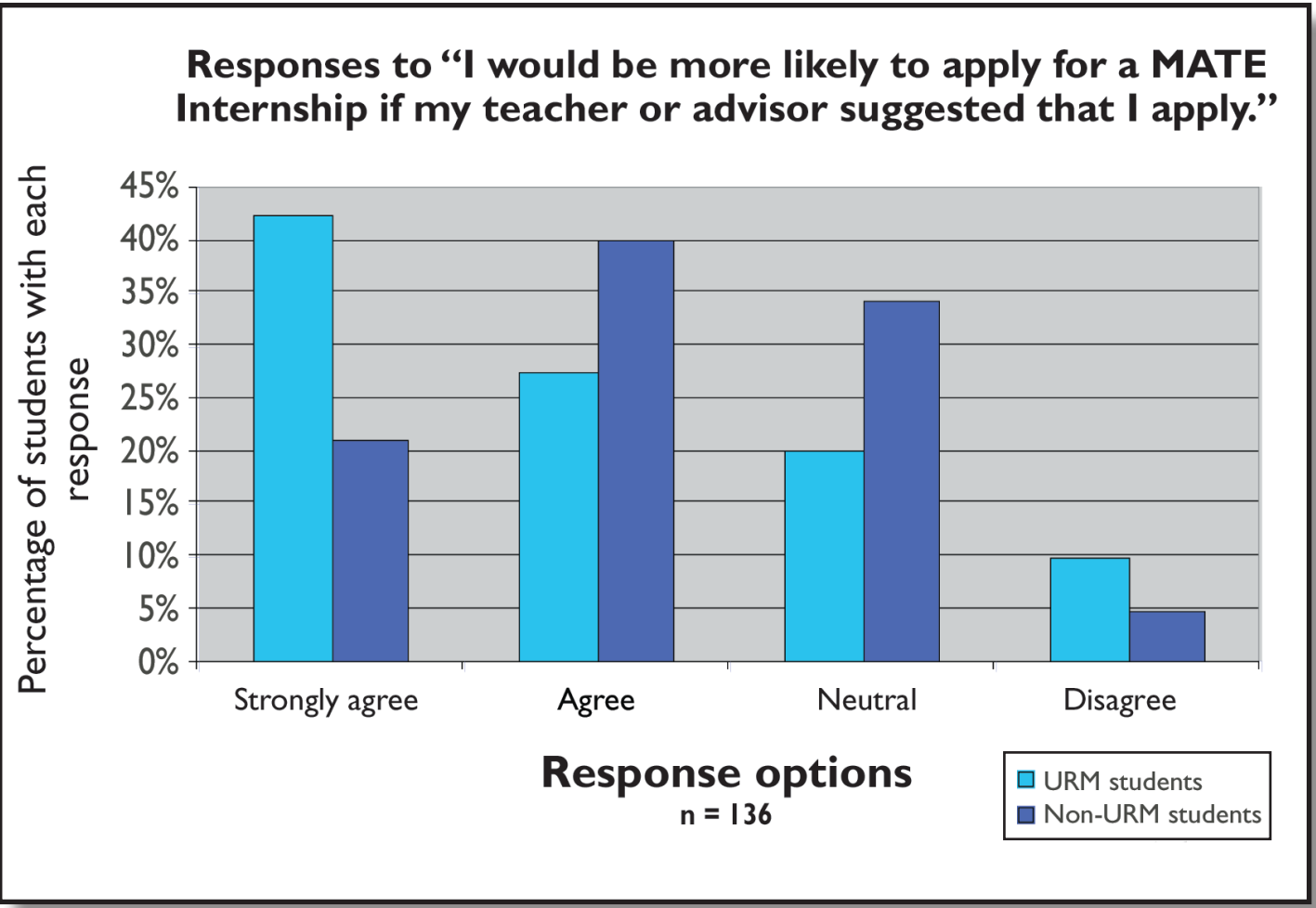
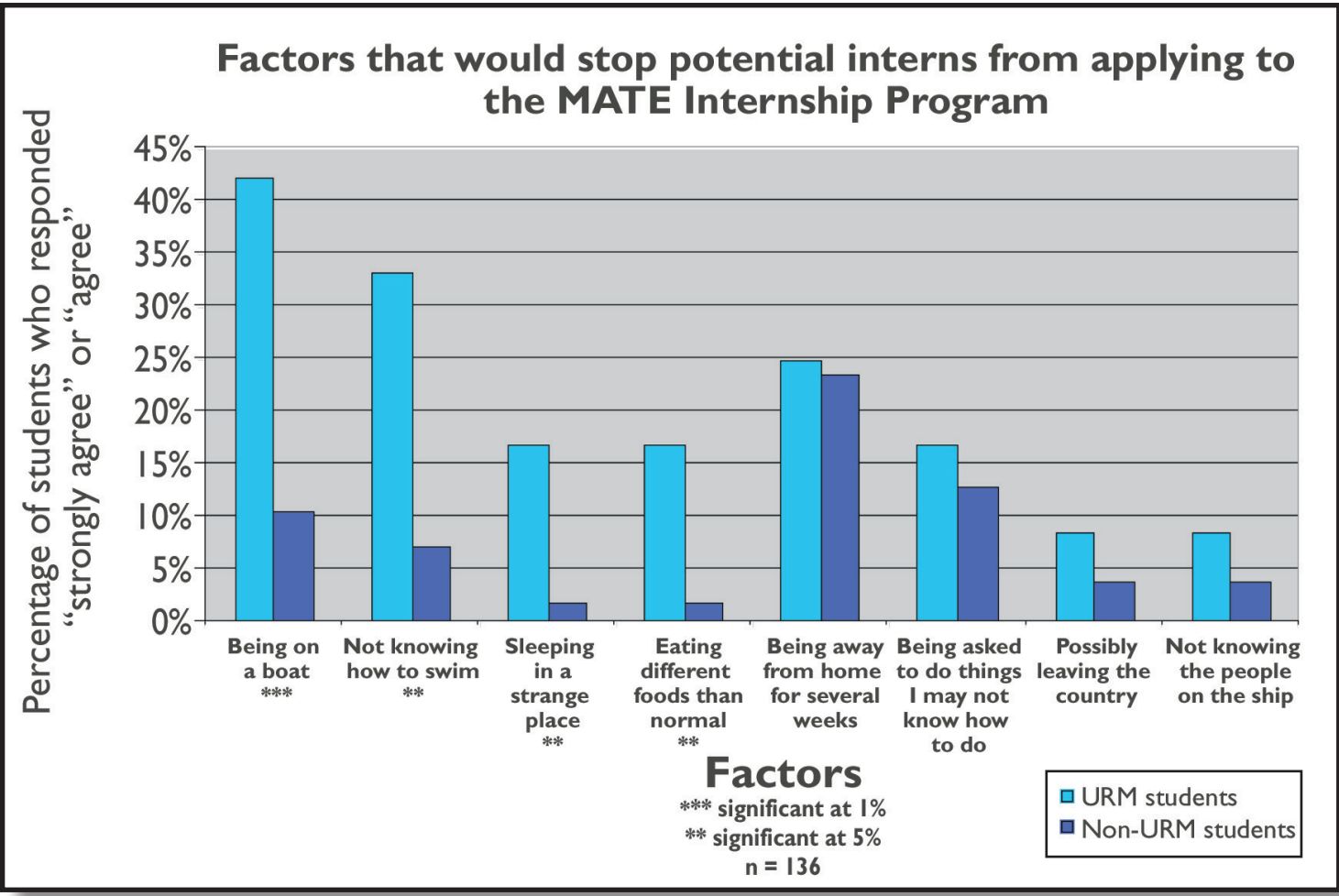
MATE conducted a national study to examine the barriers to participation in marine technical internships aboard research vessels. 136 college students from six different college technical programs participated in focus groups and surveys in an effort to understand why some students were more likely to participate than others.



Study Results:

This study shows that URM students are more concerned than their non-URM counterparts about the unknown environment of living and working on a research vessel. URM students indicated that the following factors made them less likely to apply for the program:

- Being on a boat (including not knowing how to swim)
- Sleeping in a strange place
- Eating different foods than normal



This study shows that URM students are more likely to apply to a program like this if a mentor or instructor suggested they apply.

This study also shows that all students are more likely to apply to a program like this if:

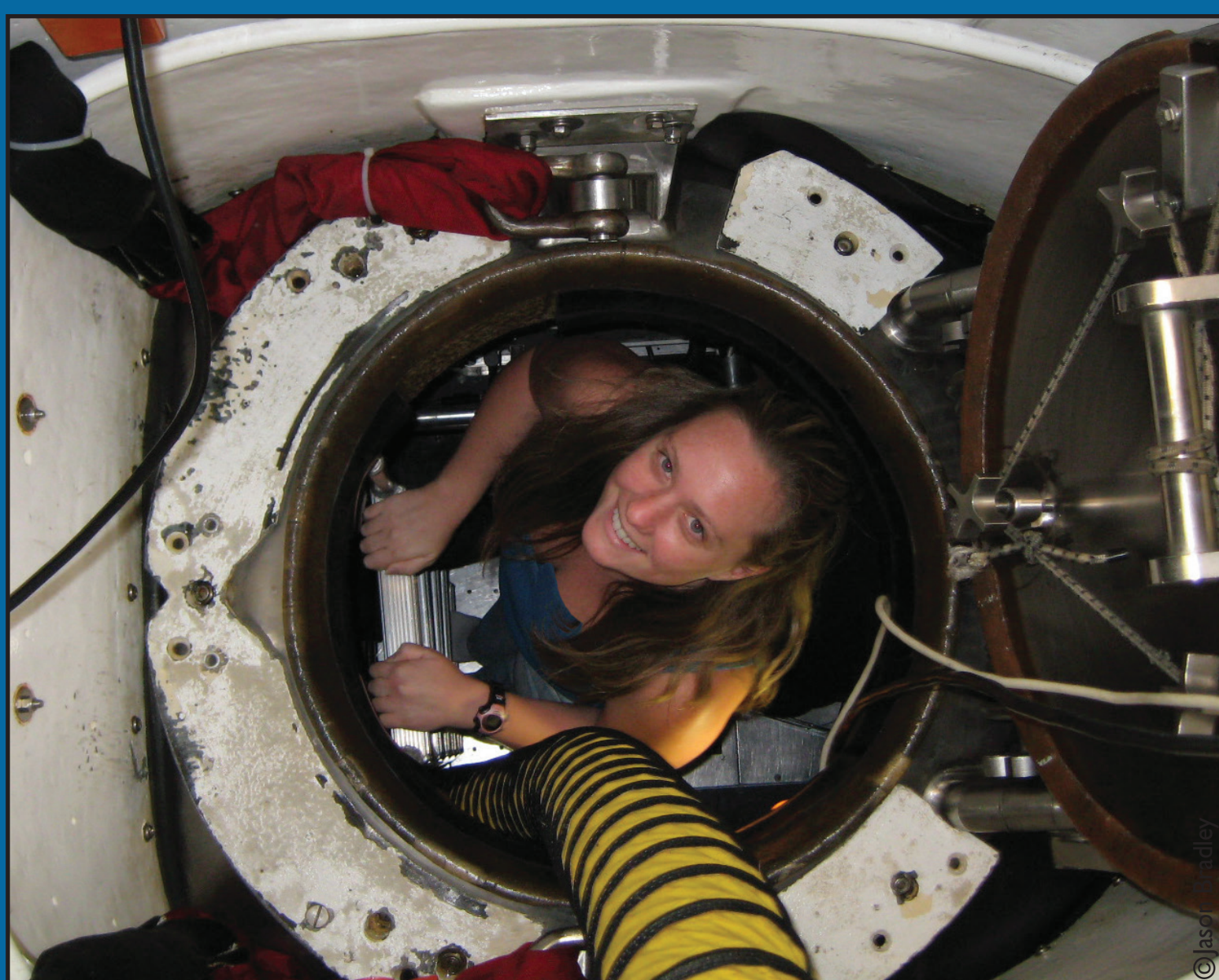
- They spoke about the program with any of the following: a URM student who participated in the program, a woman who participated, any past intern, or the internship coordinator.
- Their family was supportive of their participation.
- There was a greater familiarity with the at-sea environment (all aspects of living on a ship).



For more information, you can visit www.marinetech.org/internships or visit the MATE Internship Program Facebook page!

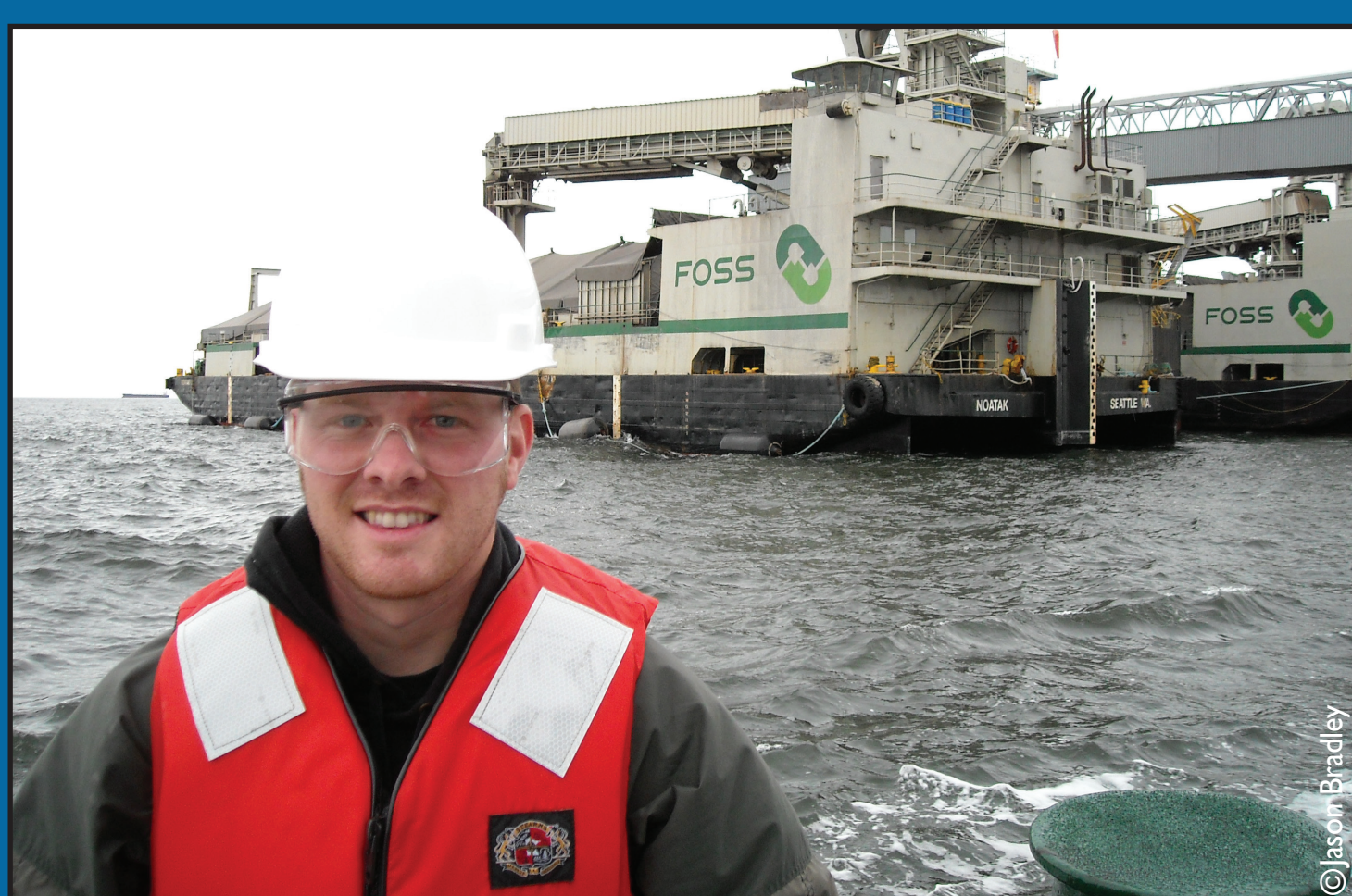
Background on the MATE Internship Program

- A technical REU program funded by NSF's Ocean Science Division. The program provides college students with one-on-one mentoring by a marine technician working aboard a research vessel.
- Hosts have included: University National Oceanographic Laboratory System (UNOLS), U.S. Coast Guard, Institute For Exploration, SERPENT, USGS, and NOAA.
- 360 interns have been placed; approximately 30% are minority and 48% are female.
- We have longitudinal data on 75% of the interns: 43% are working in marine technology, 27% work in other STEM jobs (including education), and 24% are continuing their education.



What is a MATE Internship?

- Targets community college and university students enrolled in marine science and technology, introductory engineering, and computer science programs.
- Interns work on research vessels for periods from 2 weeks to 6 months.
- Internships vary with the scientific mission but involve operating and trouble-shooting oceanographic equipment (CTDs, carousels, moorings, hydrographic survey equipment, shipboard communications, and ROVs).



What is MATE?

The Marine Advanced Technology Education (MATE) Center was established as an NSF ATE Center of Excellence in 1997 with funding from the National Science Foundation and currently continues as an NSF ATE Resource Center. Headquartered at Monterey Peninsula College in Monterey, California, the Center is a national partnership of community colleges, high schools, universities, informal educational organizations, research institutions, marine industries, professional societies, and working professionals. MATE's mission is to improve marine technical education and increase the number of highly-skilled technical professionals who enter ocean-related occupations.

Changes MATE has made to the Internship program as a result of the study:

Modifications were made to the MATE website and materials, including:

- Interns deliver PPTs to peers on their internship experience.



- FAQs posted on the website for families of potential interns in Spanish and English, including:
 - ◆ Where will my student travel? Where will they sleep and eat? Will they be safe?
 - ◆ Adonde viajara mi estudiante? Donde van a comer y dormir? Estarán sanos?
- Flyer created for faculty to ask them to encourage students to participate (these will be on display)
- Personal touch added to materials about the internship coordinator or “Internship lady”
- Past student demographics and photos more prominent in presentations/materials:
 - ◆ 61% from community colleges; 39% from universities
 - ◆ 48% female; 52% male
 - ◆ Approximately 30% underrepresented minorities
- Videos created from past interns and a professional videographer depicting “life at sea”



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