

# The Future Is Yours: Selected Opportunities & Challenges

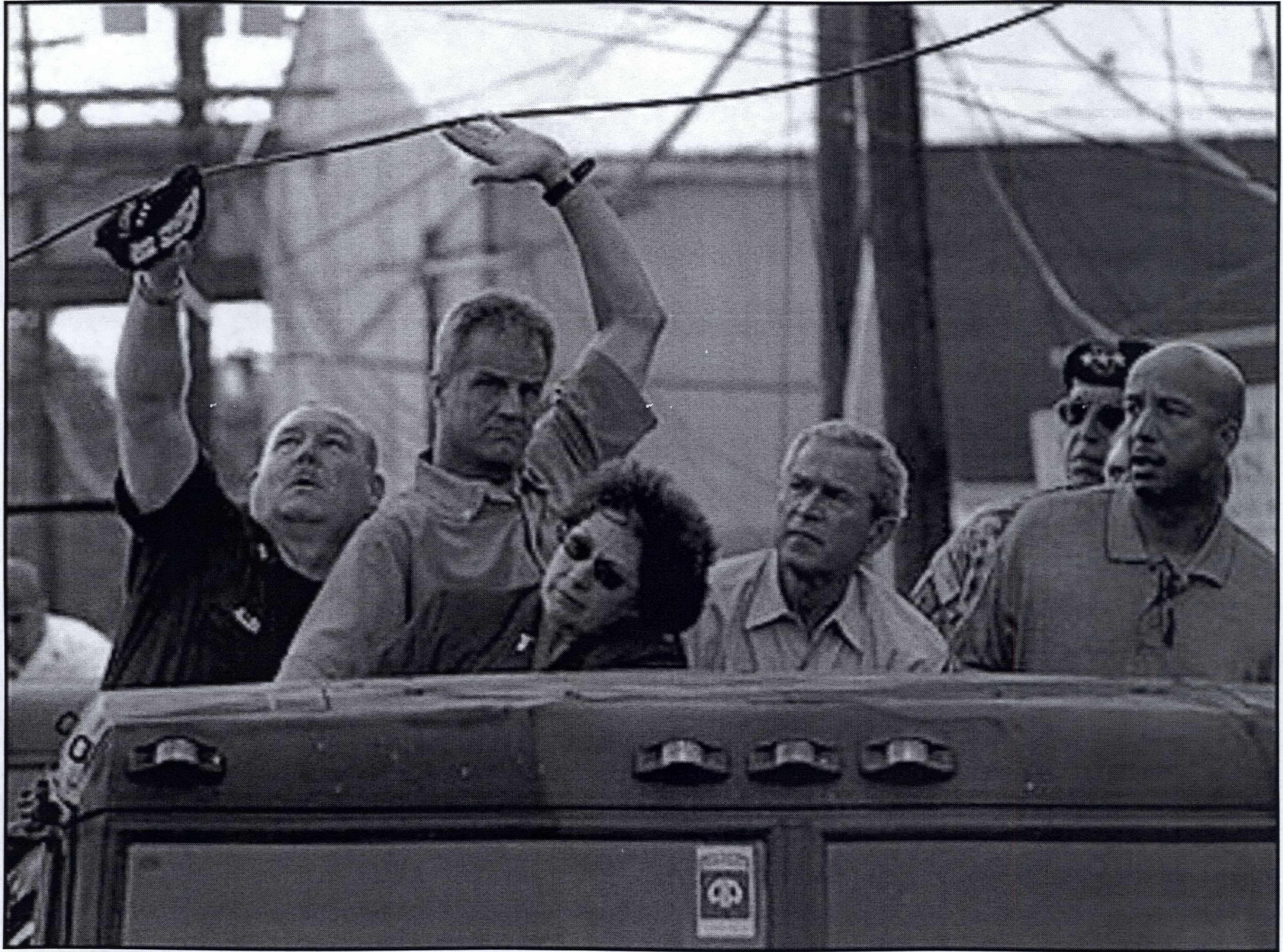
A. James Hicks, Ph.D.  
National Science Foundation

Sept. 16, 2005

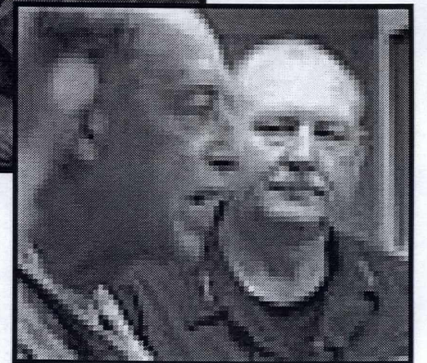
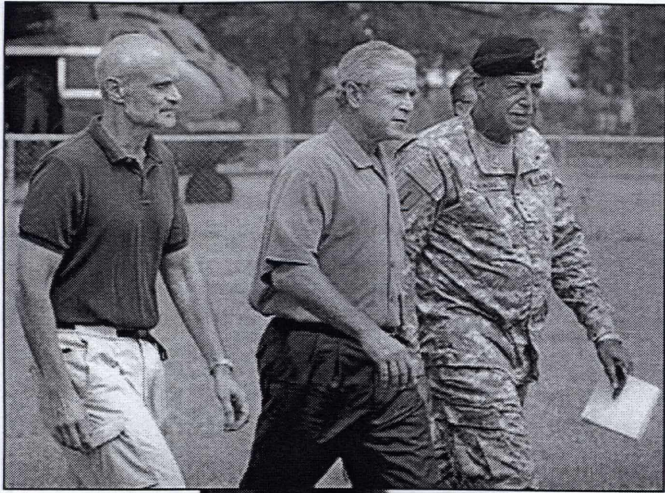
Baltimore Convention Center

Minorities in Research Science Conference













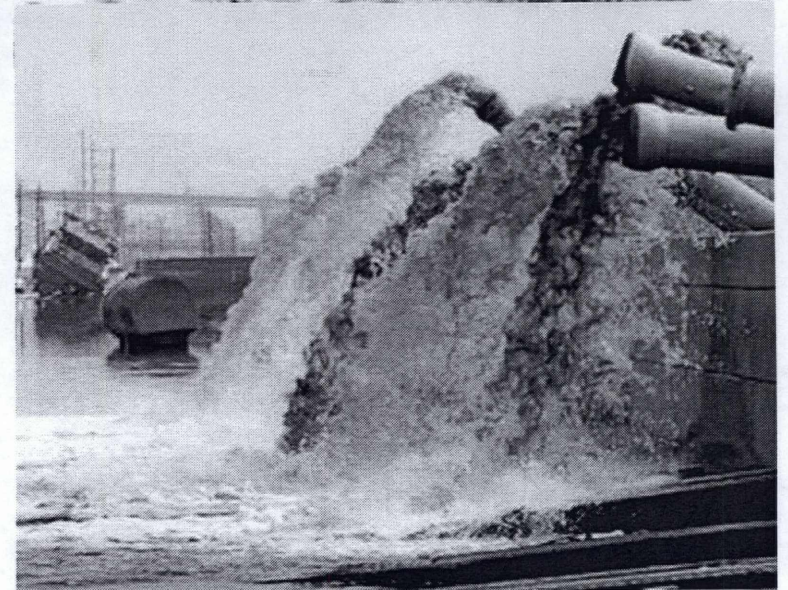
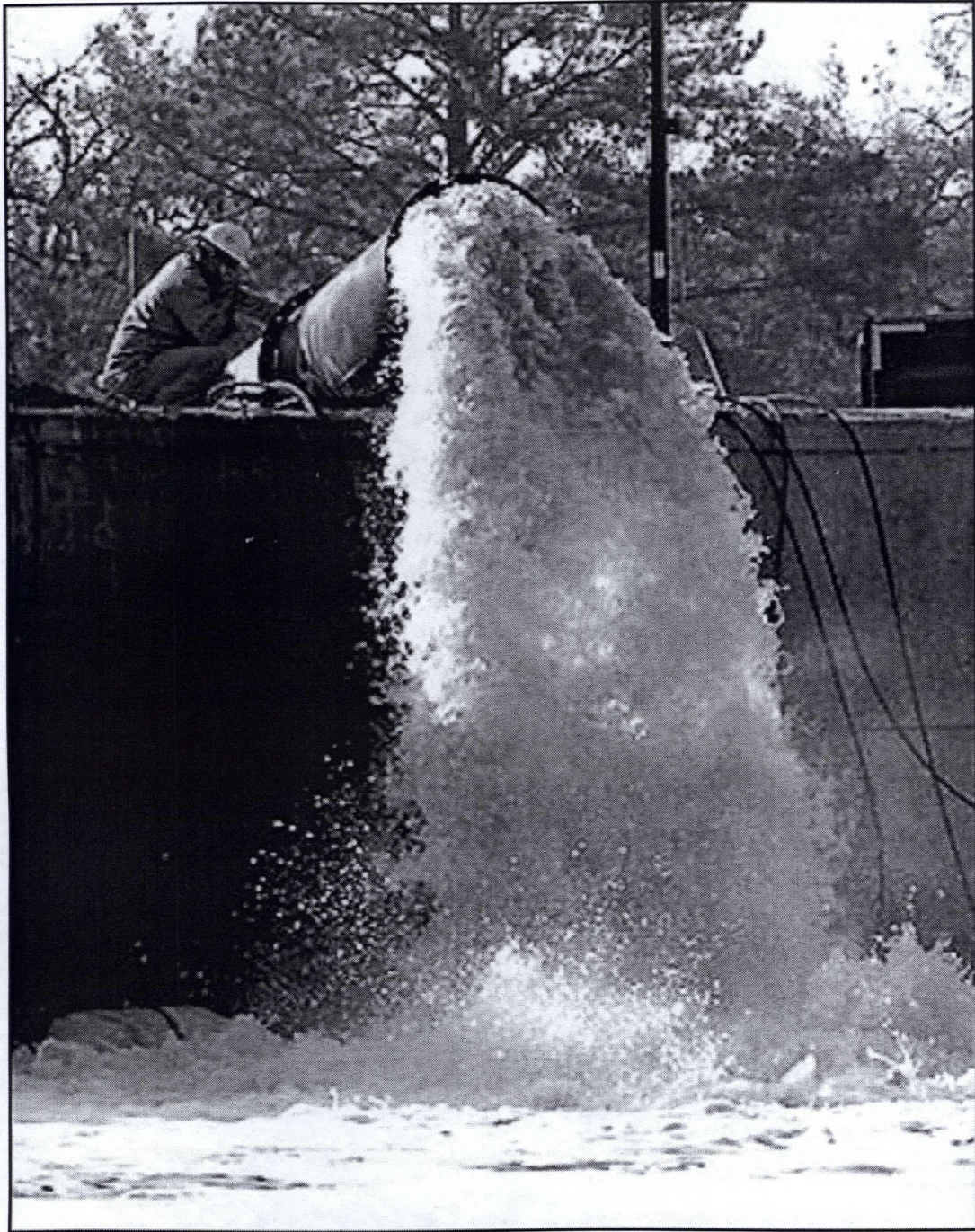
# America Needs You!!

- Increasing demand for STEM graduates
- Large increase in the number of STEM workers projected to retire over the next 10-15 years.

Listing three possible sources:

- Southern Education Foundation (SEF). 2005. *Igniting Potential: Black Colleges and Universities and Science, Technology, Engineering, and Mathematics*
- Business Roundtable. 2005. *Tapping America's Potential: The Education for Innovation Initiative*
- The National Science Board. 2004. *Science and Engineering Indicators 2004*. Two volumes. Arlington, VA: National Science Foundation





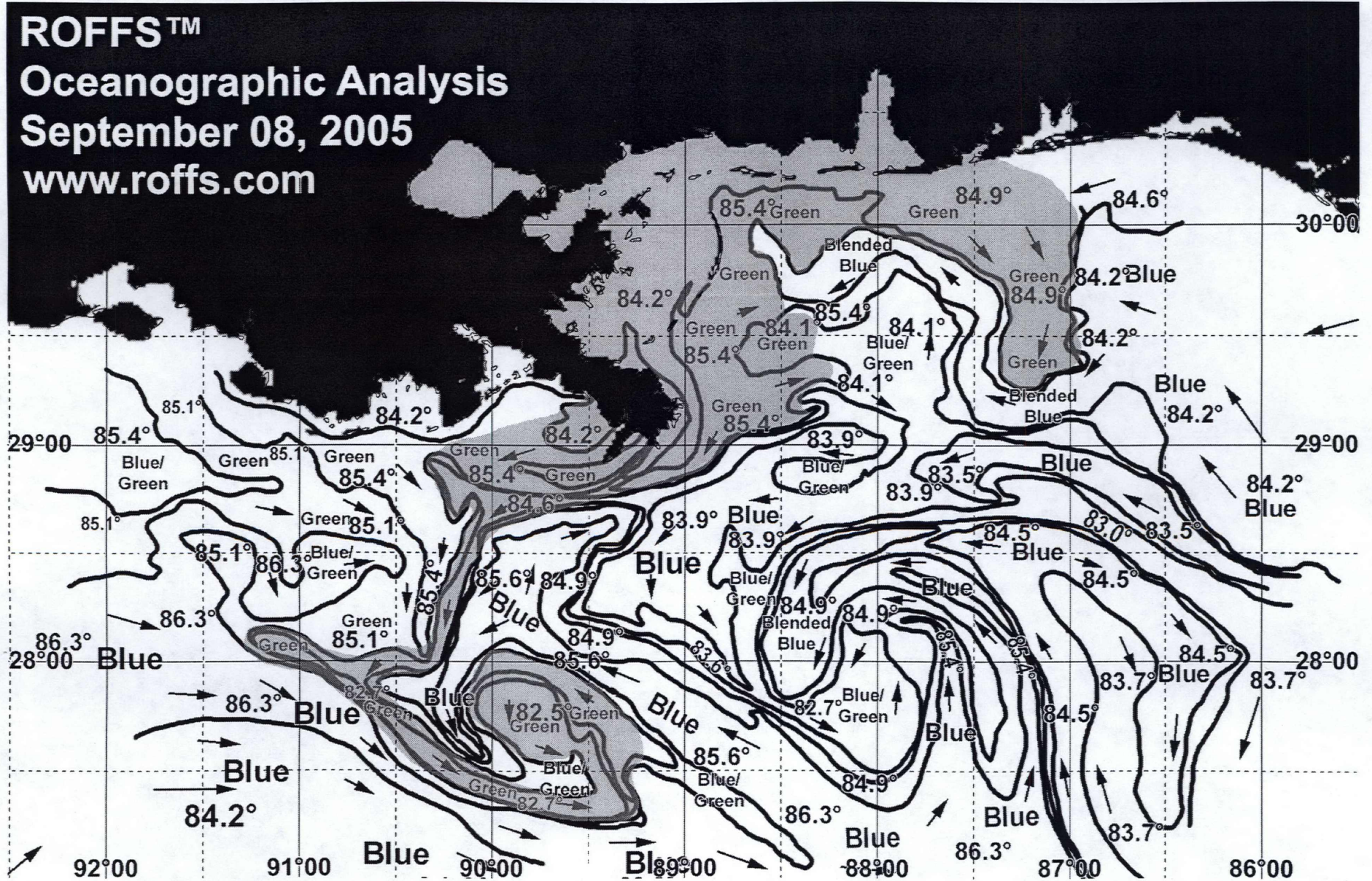


**ROFFS™**

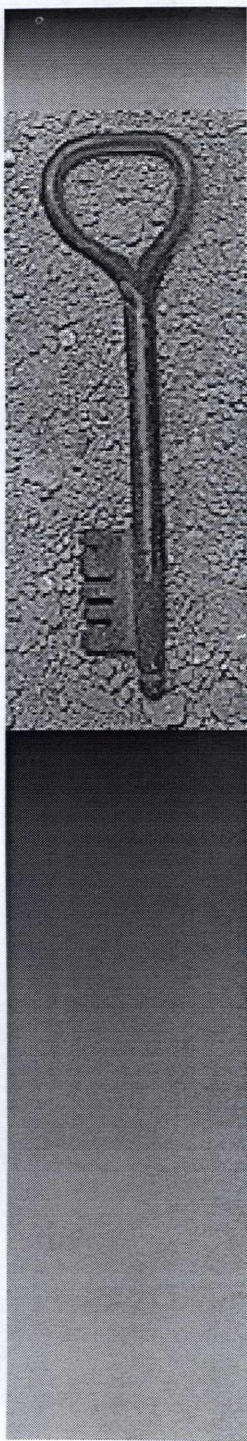
**Oceanographic Analysis**

**September 08, 2005**

**www.roffs.com**







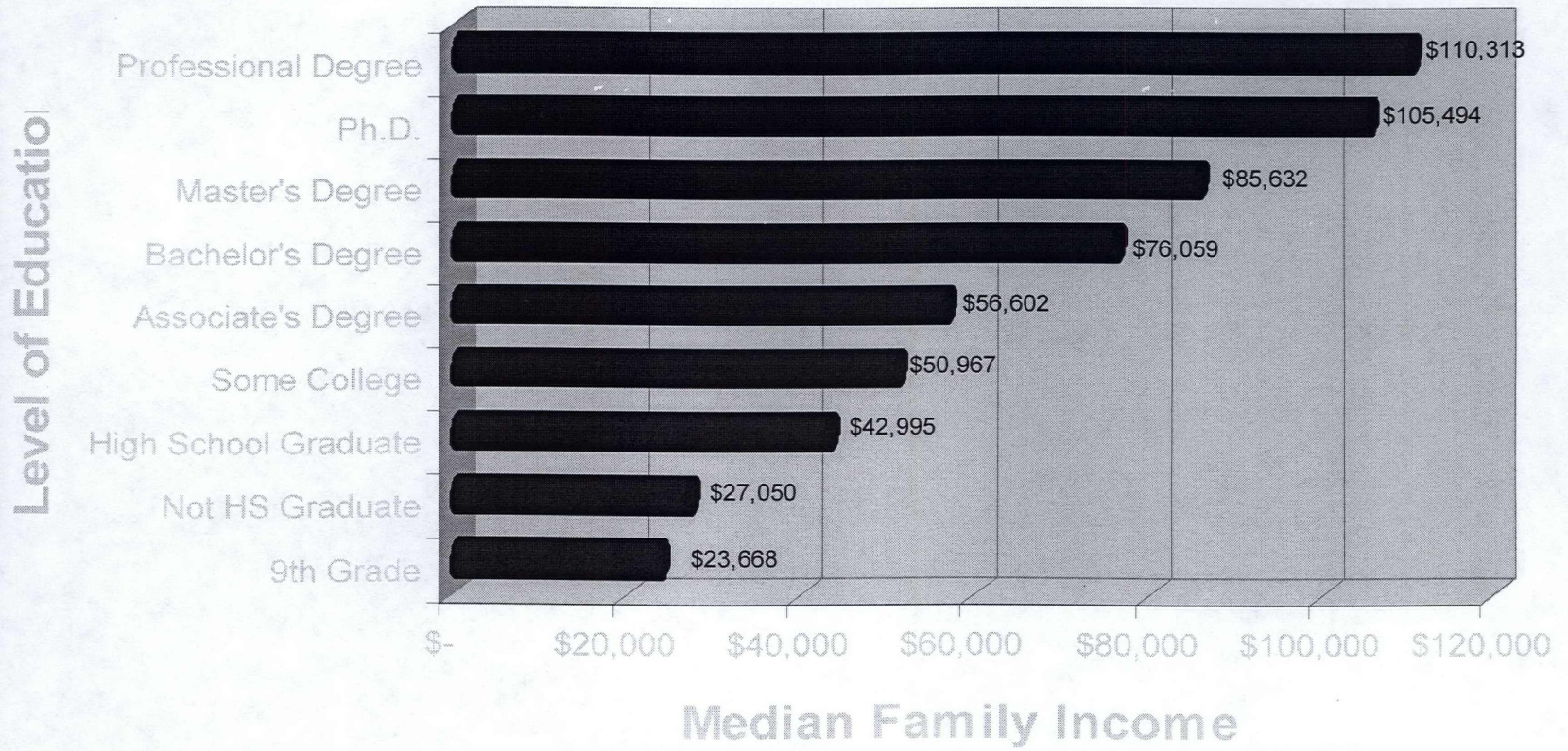
Graduate

School?

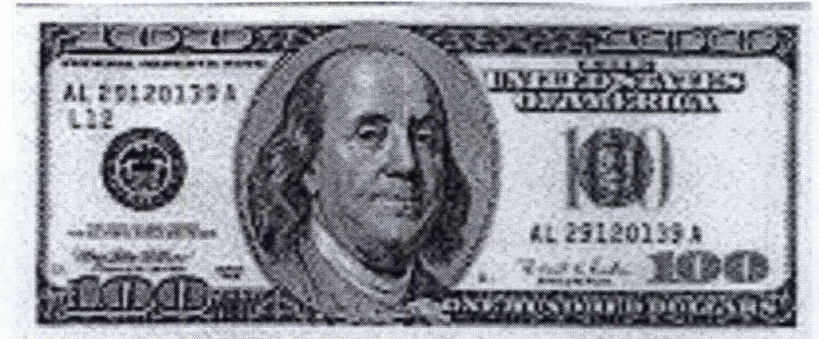


# Figure 1

*Median Annual Household Income, by Educational Attainment of Householder, 25 Years Old and Over, 1999*



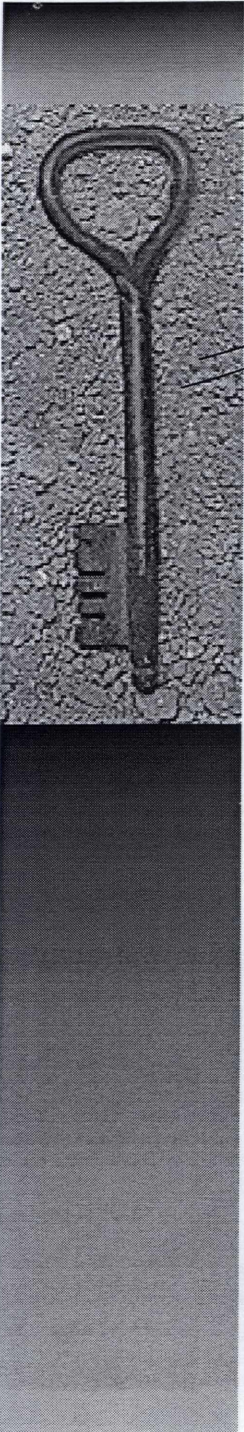




# Show Us the Money








# BRIDGE To The DOCTORATE

## Fields of study

Area	Number of Students
Life Sciences	37
Physical Sciences	27
Engineering	49
Mathematical Sciences	5
Computer Sciences	12
<b>TOTAL</b>	<b>130</b>

Institution	# of Students
Arizona State University	10
Auburn University	10
City College of New York • The Graduate Center	10
Florida State University	10
Jackson State University	10
New Mexico State University	10
North Carolina A&T State University	10
San Francisco State University	10
Texas A&M University	10
The University of Delaware	10
The University of Puerto Rico at Río Piedras	10
The University of Texas at El Paso	10
University of California, Los Angeles	10
<b>Total Students</b>	<b>130</b>



# Alabama Bridge to the Doctorate



**Angela Bell**  
Bachelor of Science: Chemistry  
Alabama State University 2002  
Graduate School Major: Chemistry  
*Whether employed by a company in industry or an academic institution, I wish to become a significant contributor to my community and environment.*



**LaToya Peterson**  
Bachelor of Science: Mathematics  
Talladega College 2003  
Graduate School Major: Mathematics  
*I hope to become a dean at a college or university. I also want to help elementary and high school students be more comfortable with the subject of mathematics.*



**Carma Cook**  
Bachelor of Science: Chemistry  
Auburn University 1993  
Graduate School Major: Chemistry  
*My long-term goal is to pursue a career as a pharmaceutical scientist in the area of drug research and development.*



**Carl Pettis**  
Bachelor of Science: Mathematics  
Alabama State University 2001  
Graduate School Major: Mathematics  
*I plan to pursue a career in industry or teach at the collegiate level.*



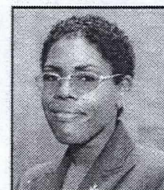
**Angela Peterson**  
Bachelor of Science: Mathematics  
Alabama State University 2001  
Graduate School Major: Mathematics  
*I plan to educate others on a collegiate level.*



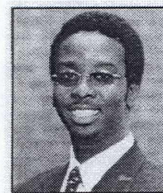
**Charmaine Porter**  
Bachelor of Science: Microbiology  
Auburn University 2003  
Graduate School Major: Microbiology  
*I am debating on whether I want to work in industry or education. As of now, I am leaning towards working in a university setting.*



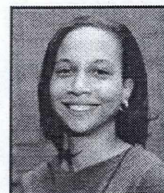
**Iris Hill**  
Bachelor of Science: Zoology  
Auburn University 2003  
Graduate School Major: Conservation Biology  
*I plan to combine and utilize the practice of conservation biology and veterinary medicine to improve the quality of living for exotic and endangered wildlife species.*



**Jana Smith**  
Bachelor of Science: Biology  
University of Missouri – St. Louis 2000  
Graduate School Major: Molecular Biology  
*I desire to attain a post doctorate position at the University of California Davis or the University of Chicago in plant molecular biology.*



**Derek Forston**  
Bachelor of Science: Biomedical Sciences/Spanish  
Auburn University 2003  
Graduate School Major: Biological Sciences  
*I plan to reach other students by teaching at a major university and undertaking rigorous research on an interesting phenomenon or enigma.*



**Michele Williams**  
Bachelor of Science: Computer Science  
Bowie State University 2003  
Graduate School Major: Computer Science  
*After earning a Ph.D. degree I plan to work on educational software products that are tailored to older students.*



# California

## Bridge to the Doctorate



**Claudia Aguilar** BS, physiology, 2002, San Francisco State University  
**Current program:** MA, physiology  
**Career goal:** Ph.D./MD—research



**Christina Harris** BA, biology, 2002, University of Missouri  
**Current program:** MA, physiology  
**Career goal:** Ph.D.—faculty/research



**Marilyn Asuncion** BS, physiology, 2001, San Francisco State University  
**Current program:** MA, physiology  
**Career goal:** Ph.D.—research



**Regina Lagman** BS, physiology, 2000, San Francisco State University  
**Current program:** MPH, public health  
**Career goal:** Ph.D.—research



**Danielle Augustin** BS, microbiology, 2001, San Diego State University  
**Current program:** MA, microbiology  
**Career goal:** Ph.D.—faculty/research



**John Paul Salazar** BS, molecular biology, University of California-Santa Cruz  
**Current program:** MS, chemistry  
**Career goal:** Ph.D.—faculty/research



**Nichole Coleman** BS, chemistry, 1977, San Jose State University  
**Current program:** MS, chemistry  
**Career goal:** Ph.D.—faculty/research



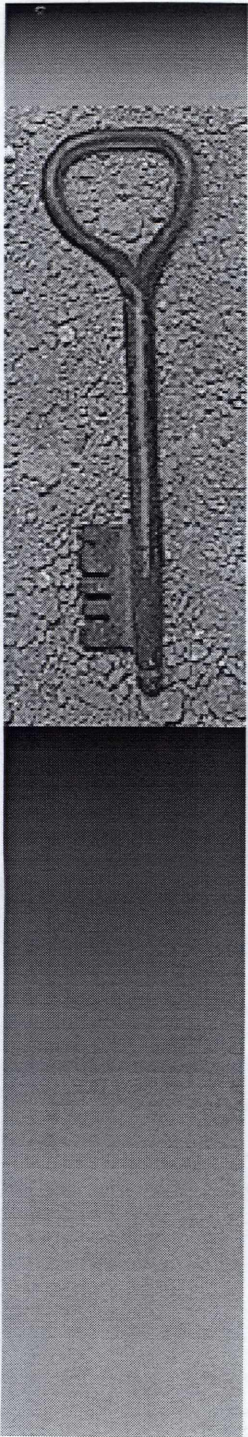
**Lisseth Villareal** Electrical engineering, 2002, Cal Poly San Luis Obispo  
**Current program:** MS, engineering  
**Career goal:** Ph.D.—faculty/research



**Noe Gomez** BS, cell/molecular biology, 1996, University of California-Irvine  
**Current program:** MA, microbiology  
**Career goal:** Ph.D.—faculty/research

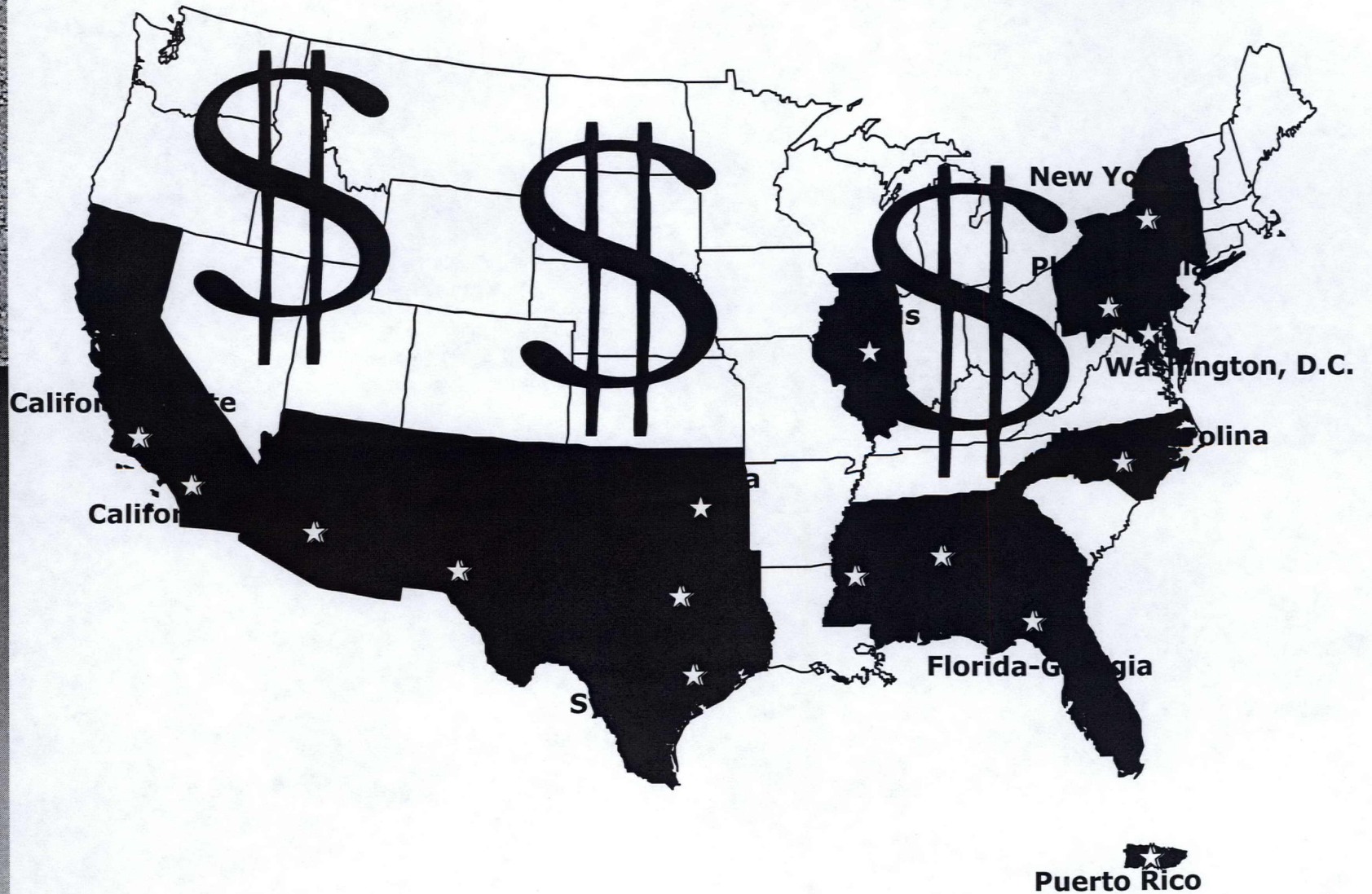
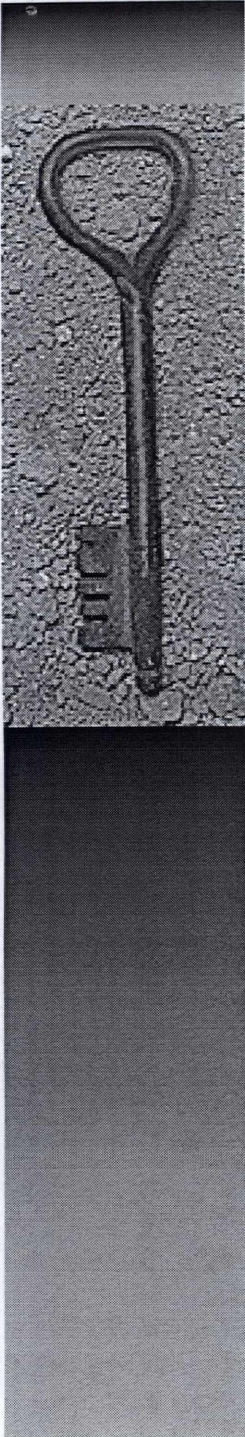


**Cornell Wells** BS, physiology, 2002, San Francisco State University  
**Current program:** MA, physiology  
**Career goal:** Ph.D./MD—research





# Bridge to the Doctorate Alliances





## Dash of Judgment

Have all ingredients at body temperature. Sift Intelligence, Ambition and Understanding together. Mix Cooperation, Attitude and Open-Mindedness until dissolved. Add gradually Ability, Tactfulness and Responsibility. Stir Initiative and Judgment thoroughly. Beat Patience until smooth. Blend all ingredients well; sprinkle liberally with Cheerfulness, and bake in an oven of Determination. When absorbed thoroughly cool and spread with Common Sense.



# A Recipe for Success

My high school teacher, Kenneth R. Hennant, made history liter-ally jump off the page. His elegance and eloquence made such an impression on me that I still correspond with him and send annual Christmas cards. He gave our 1958 high school graduating class this "recipe" as a parting gift. I pass it on, now, to you:

## INGREDIENTS

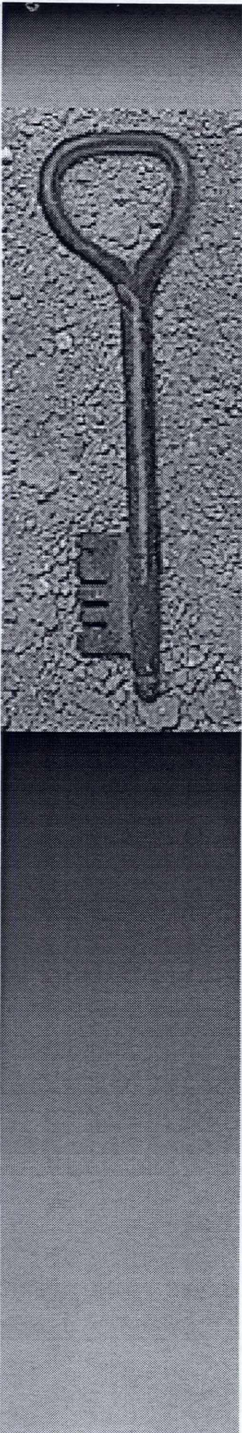
4 cups intelligence	1 1/4 cups sifted initiative
1 1/2 cups responsibility	3 cups ambition
2 cups open-mindedness	2 cups unbeaten patience
1 quart understanding	1 cup tactfulness
2 1/2 teaspoons attitude	4 cups ability
Dash of Judgment	

Kenneth R. Hennant

*From the Book Title: Get Up With Something On Your Mind, pg.60*

*Author: Howard C. Adams, Ph.D*

*Copyright 2002*





# A Recipe for Success

My high school teacher, Kenneth R. Hennant, made history literally jump off the page. His elegance and eloquence made such an impression on me that I still correspond with him and send annual Christmas cards. He gave our 1958 high school graduating class this "recipe" as a parting gift. I pass it on, now, to you:

## INGREDIENTS

4 cups intelligence

1 1/2 cups responsibility

2 cups open-mindedness

1 quart understanding

2 1/2 teaspoons attitude

Dash of Judgment

1 1/4 cups sifted initiative

3 cups ambition

2 cups unbeaten patience

1 cup tactfulness

4 cups ability

Have all ingredients at body temperature. Sift Intelligence, Ambition and Understanding together. Mix Cooperation, Attitude and Open-Mindedness until dissolved. Add gradually Ability, Tactfulness and Responsibility. Stir Initiative and Judgment thoroughly. Beat Patience until smooth. Blend all ingredients well; sprinkle liberally with Cheerfulness, and bake in an oven of Determination. When absorbed thoroughly cool and spread with Common Sense.

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