

# **My Unlikely Journey From the Barrios of Los Angeles to The White House and The National Medal of Science**

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Rice University



Blackwell-Tapia Conference  
ICERN

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# In Loving Memory of Jean Tapia



**Dedicated to the Memory of  
David Blackwell**





# Prologue

December 7, 2023 M.D. Anderson Tumor Institute  
“You have been diagnosed with advance liver cancer  
with a life expectancy of one year”

# My Parents



# My Mother's Teaching

- Pride.
- Belief that you can: **Si se puede.**
- Good work habits.
- Global excellence.

# Stage I

Our Humble Beginnings

Circa 1957

(An Early Love For Cars)



# “Almost Grown”



# Bobby Tapia

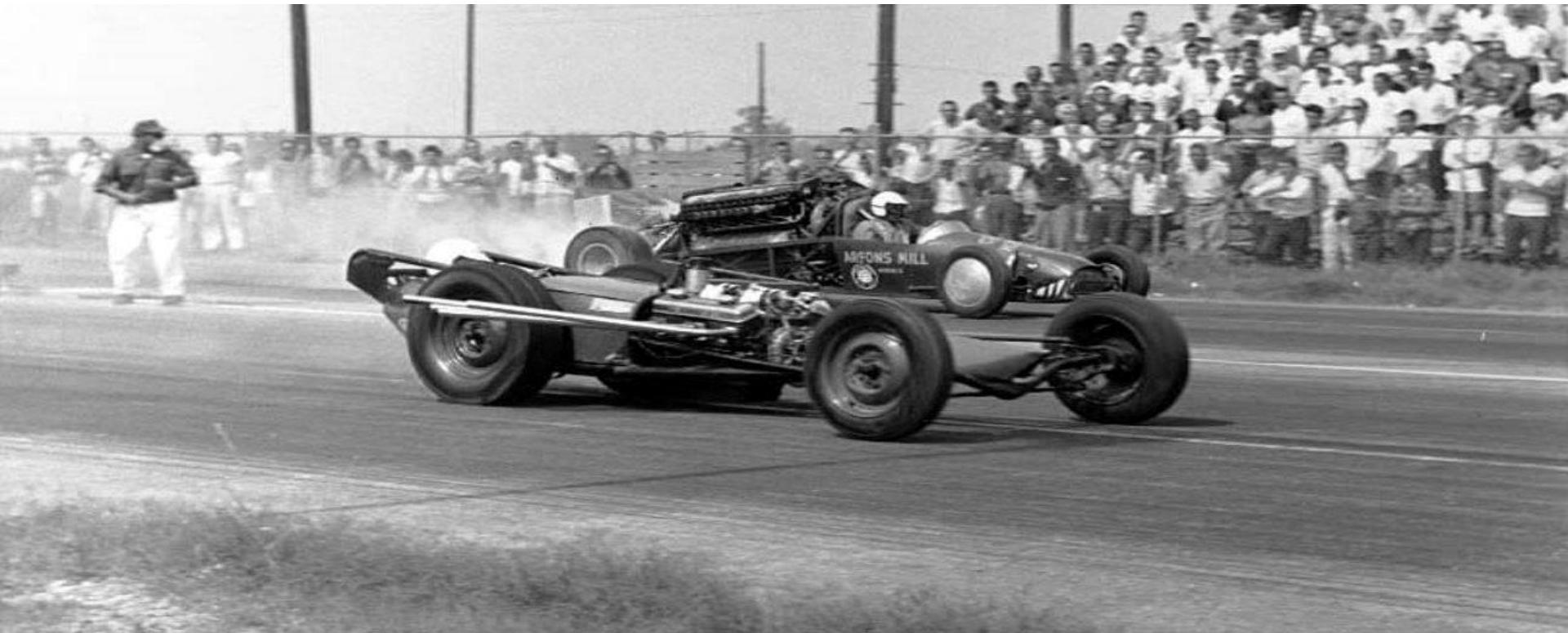
# The Computerized Driver



# David and Goliath Revisited

In 1959 in a highly publicized match race, Bobby in the little Chevy *Almost Grown* beats Art Arfons in the *Green Monster*.

“Bobby The Giant Killer”



# Bobby Moves Up To Top Fuel



# “Taqueray Flambé”



Courtesy of Artist David Peters

# 1968

# Bobby Sets World Elapsed Time Record

**WINTERNATIONALS WRAPUP**  
Page 4

**NATIONAL**  
**DRAGSTER**

FEBRUARY 16, 1968 ★ ★ ★ JOURNAL OF THE NATIONAL HOT ROD ASSOCIATION ★ ★ ★ 25¢ VOL. VIII — NO. 50

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## 6.54 CLOCKED BY STELLINGS-TAPIA

**Orange County Meet  
Boasts Quickest Yet**

STELLINGS-6.54 E.T.

ORANGE CACAWAY — NATRONA, Orange County, Calif., Feb. 11—Bobby Tapias, of the Stellings-Tapia team, drove his "Silvery Fox" to an unprecedented 6.54 elapsed time in the quarter-mile drag racing trials today at Orange County Fairgrounds.

John Mitchell captured Top Fuel Eliminator with a winning time of 7.28 seconds.

Ed Stellings put together three decisive victories to defeat John "Hawaiian" Smith in the feature funny car match. And Jim "Hawaiian" Smith, in his supercharged 1968 wheelstander,

Twenty AAA-Fuel dragsters rolled out of the starting line this morning with one thought in mind: "How hot will it take to qualify?"

But only one car turned in a better time than the 7.28 seconds of the full-bodied "Silvery Fox." The Ed Stellings-prepped '58 Chrysler sounded as though it had been running this morning. Stellings mentioned that he had run the fastest one today—but 6.54!!! The name was carrying a super low, and the combination worked as Tapias and Stellings were the first to drag racing. Stellings' time was recorded as 6.54, and he stands as the first to stand the record. Evidence of the short time was seen

as the car recorded on the top speed of the track.

The "Red Mountain Boys" were on the program. John Miller and his team put together a record car in a short 7.16 seconds at the quarter mile.

Doug Smith was on hand with his new Don Long car. The Minneapolis man had to have his engine and the yet-to-be-painted car postponed, coasting through the lights on the engine.

Mike Smiley had no trouble qualifying his "Hawaiian" 7.18-212.76 mph. He was followed by the "Speedsters Special" with a 7.20.

Not to be left out, Larry Dixon was in with a 7.28-212.76 clocking. The "Silvery Fox" was running a full nose which makes the time a little slower.

The "Atlas Oil Tool Special" was the last to qualify. The Ed Stellings-prepped '58 Chrysler was at the wheel of the car. John Martin was driving. John was giving his new team a break after a hard week.

**ROUND 1**

Mike Smiley brought the Keith Miller charger to the starting line. The Stellings "Silvery Fox" Tapias was staged as were Smiley and Stellings. The "Silvery Fox" Tapias left first hoping to get the

*"It's not his boldest six pol" After a record breaking 6.54, Bobby Tapias may just need a new lid, as everyone from car owner Larry Stellings down, wishes him well earned congratulations.*  
Photo by Jim Kelly

*(Continued on Page 17)*

**1968**  
**Richard earns a Ph.D.**  
**in Math from UCLA**

# An Audience Vote

- World record in fuel dragster  
or
- Ph.D. in Math from UCLA

# My Mother's Teachings

Global Excellence

# Stage II

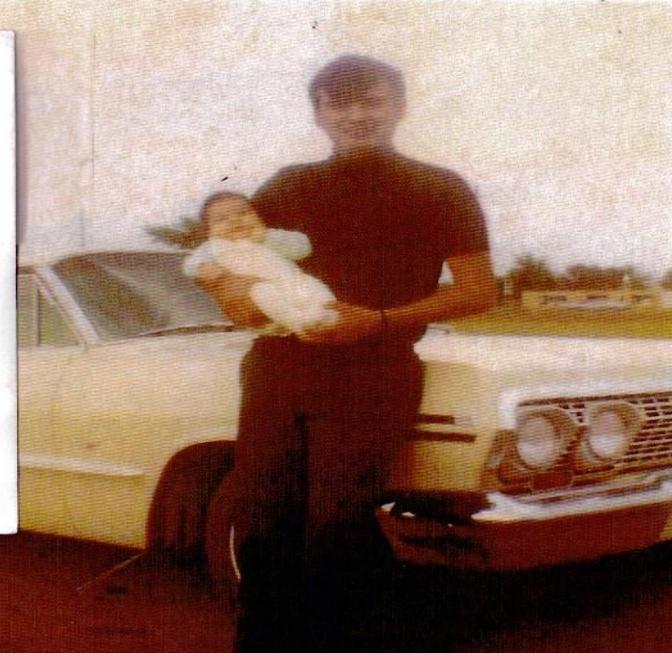
Happiness and Early Success



# Circee 1960



# Richard 1968







# Academic Success

- 1970 Hired by Rice
- 1972 Promoted to Associate Professor with Tenure

# Stage III: The Delicate Balance of Academic Success and Outreach

1972	A time to embrace giving back in terms of addressing underrepresentation
Why?	I have been there, I understand, I can help and I have tenure.

# Rice RAMAS 1972



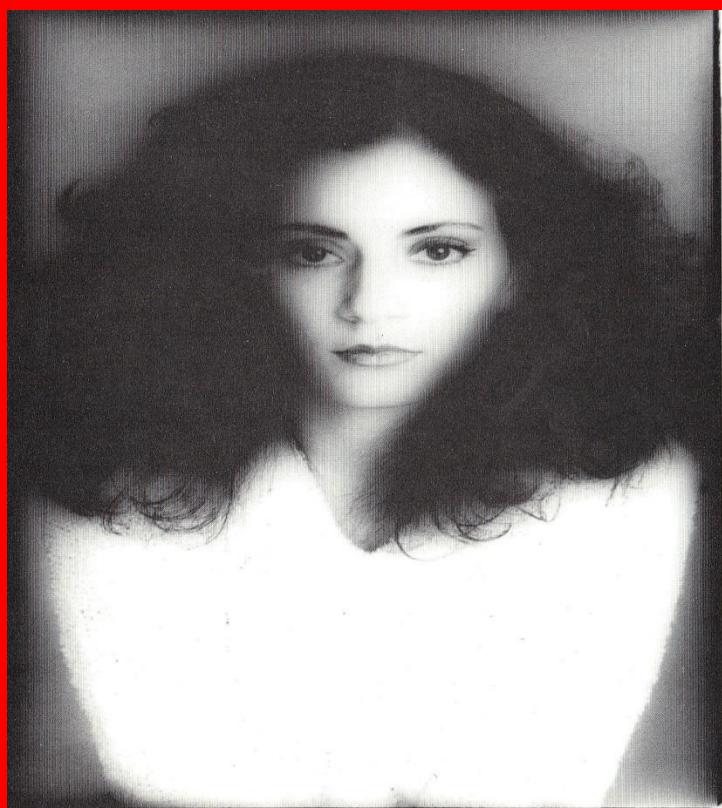
# Stage III

Personal Tragedies Along The Way

# 1977



1982



Jean

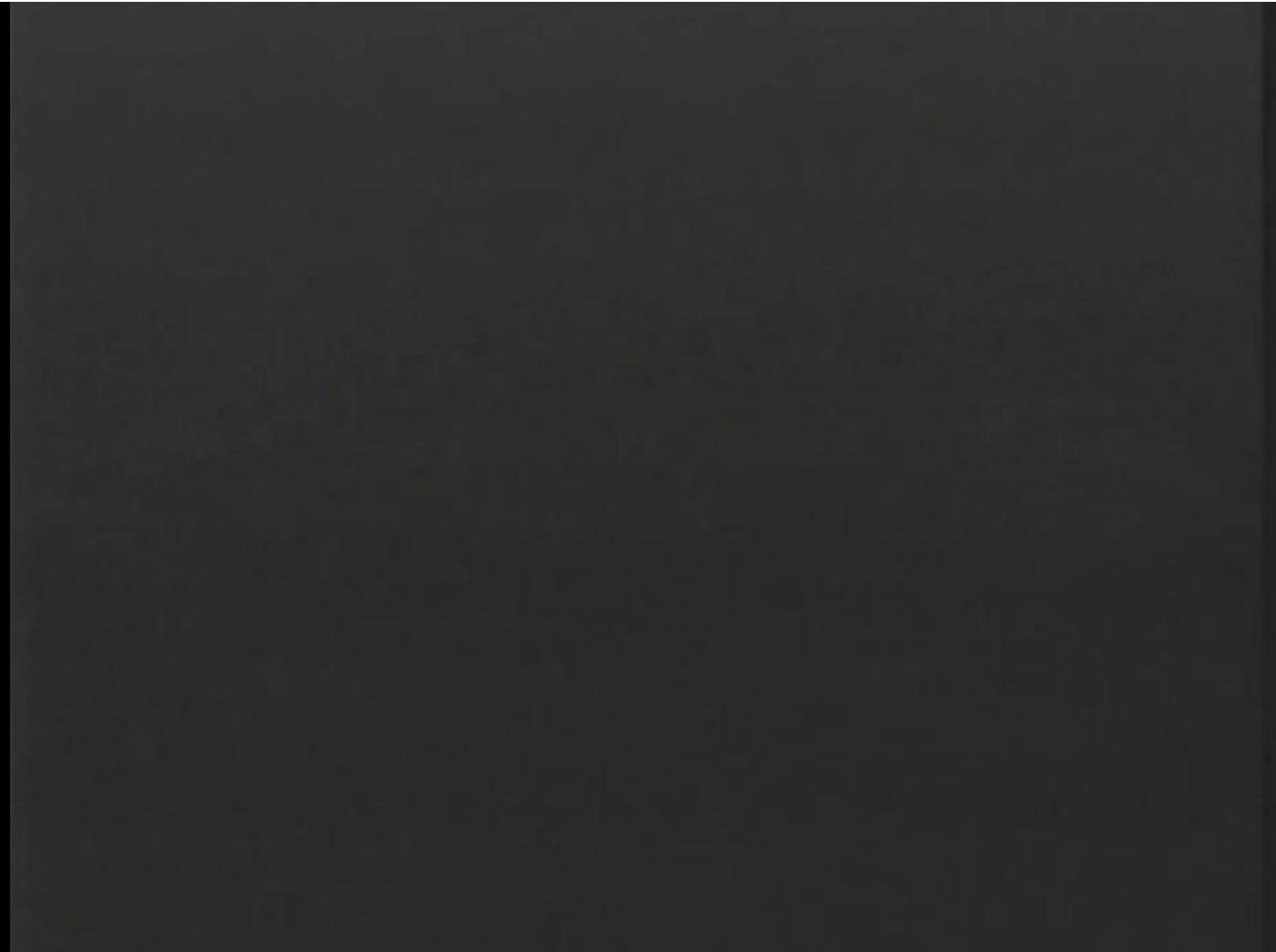
**Three Strikes I Am Out**

# Stage IV

Coping Mechanism

Jean: A Need to Return to Dance

Richard: A Need to Return to Cars



# **Richard: Return to My Roots by Building a Show Car that is World Class**

**1970 Chevelle Malibu SS**

**“Heavy Metal”**

# “In the Beginning”





08/10/2003





08/25/2003



06/30/2003



# “Heavy Metal”

Three Times National  
Show Car Champion







EGUAR'S

AutRama

O'Reilly

AutoRama

Toy Show

Swap Meet

Women's World



**“TOO ETHNIC”**



# BEST IN SHOW

BY GRANT PETERSON  
Photography by Mike Harrington

It's funny how many little old ladies have been unknowingly stalked over the years by men who covet their trustworthy, clean, one-owner cars. I've done it, my Dad has done it, my friends have done it, and Richard Tapia has also done it. In Richard's case, the little old lady in question proved to be well acquainted with her '70 Chevelle and gave Richard the "shake" before he could pop the question of purchasing her car. Much to his chagrin, he went home empty-handed, but he didn't underestimate the power of visualization.

A few years later, this same Chevelle pulled up in front of Richard's home in Houston, Texas. Surprised, and trying to make heads or tails of the situation, his friend Bill Kelley emerged from the car and explained that he just bought it from an estate sale! What are the

**The Tapia's Award-Winning '70 Chevelle**





Black & Decker & Paul Evans RT  
47th Annual Fresno Autorama  
March 11-12, 2006

BUFFALO BILL'S  
LIVE MUSIC

Sugarhill

Hightway Star  
Looks That Kill  
Paranoid  
You've Got Another  
Thing Comin'  
Whole Lotta Rosie  
Supercharger Heaven  
Burn and Destroy  
Mur the Technicolor  
Number of the Beast  
Ace of Spades  
Hot for Teacher  
Ring After Midnight  
Dr. Feelgood

Deep Purple  
Motley Crue  
Black Sabbath  
Aerosmith

AC/DC

White Zombie  
Metallica  
White Zombie  
Iron Maiden  
Motörhead  
Van Halen  
Aerosmith  
Motley Crue

# My Mother's Teachings

Global Excellence

# Mathematical Challenge

Use Mathematics to  
Create a Psychedelic Video that  
Will Be a Part of the Car Exhibit

# Enter Rice Student Josef Sifuentes

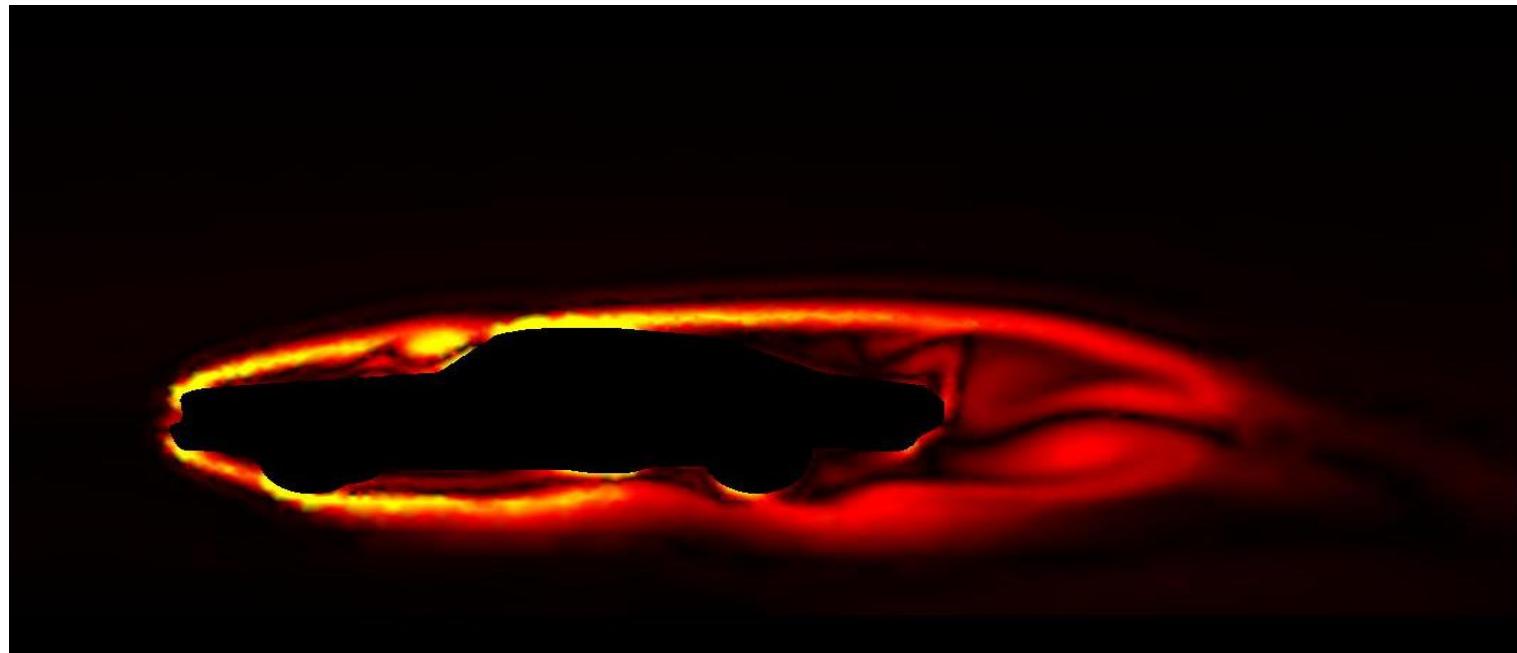


# Fluid Flow Simulation

Incompressible Navier-Stokes Partial Differential Equations

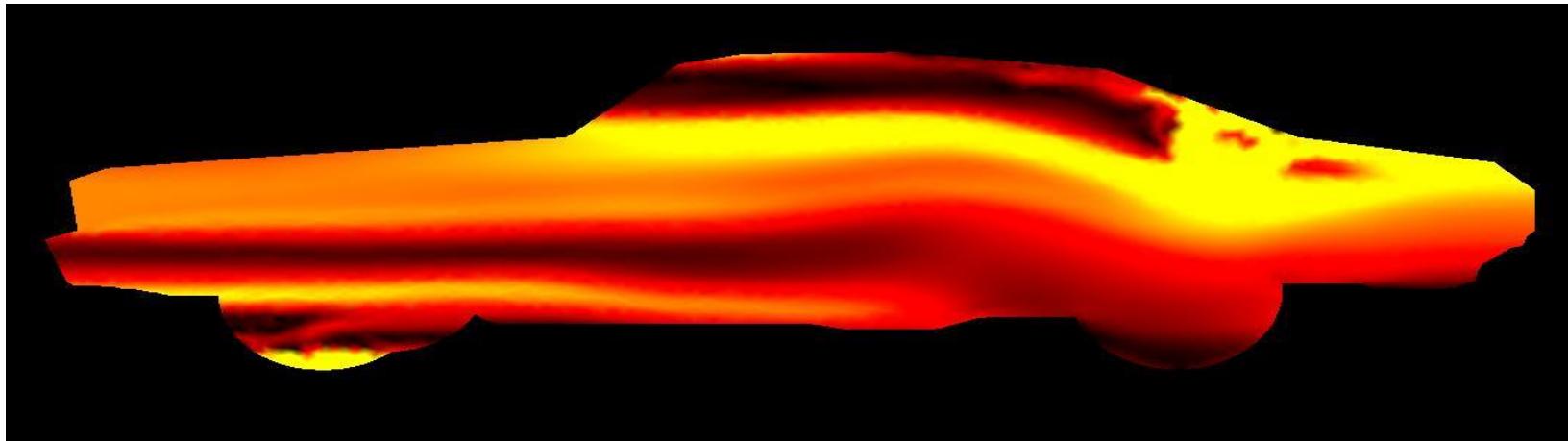
$$\rho \left( \frac{\partial \mathbf{u}}{\partial t} + \mathbf{u} \cdot \nabla \mathbf{u} - \mathbf{f} \right) - \mu \nabla^2 \mathbf{u} + \nabla p = 0$$
$$\nabla \cdot \mathbf{u} = 0$$

# Flow Around the Chevelle Contour



# Make Contour of Chevelle the Boundary Conditions

(flow inside Chevelle)



# Fun with Singular Value Decomposition



Rank = 450

# Rank = 50

Rank =50 (full rank between 450 and 460 for 3 RGB matrices)



# Rank = 20

Rank =20 (full rank between 450 and 460 for 3 RGB matrices)



# Rank = 5

Rank =5 (full rank between 450 and 460 for 3 RGB matrices)



# Heavy Metal and the Seventies

Incorporate sociological themes from the late 60's and 70's

- Rebellion!!!
- Heavy Metal music
- Muscle cars

# The Movie

**HEAVY METAL CHEVELLE**  
1969 1970 1971 1972 1973 1974 1975 1976



# Stage V

A Renewed Commitment to  
Understanding and Improving  
Representation in STEM

# How Are We URM Doing In Education?

# Blacks and Hispanics In the Academic Pipeline\*

Discipline	Top 100 Departments 2007		
	Blacks	Hispanics	Asians (all)**
Chemistry	1.5%	2.1%	10.5%
Math	1.5%	1.7%	16.6%
Computer Science	0.9%	1.8%	27.1%
Physics	0.7%	1.8%	13.0%
Chemical Engr	2.1%	3.3%	17.8%
Civil Engr	1.8%	4.3%	17.3%
Electrical Engr	1.7%	1.7%	28.4%
Mechanical Engr	1.9%	2.0%	26.0%
Biological Sci	1.4%	2.5%	12.3%
Earth Sciences	0.9%	2.3%	6.6%

\*Hispanics were 14.8% of the 2006 US population

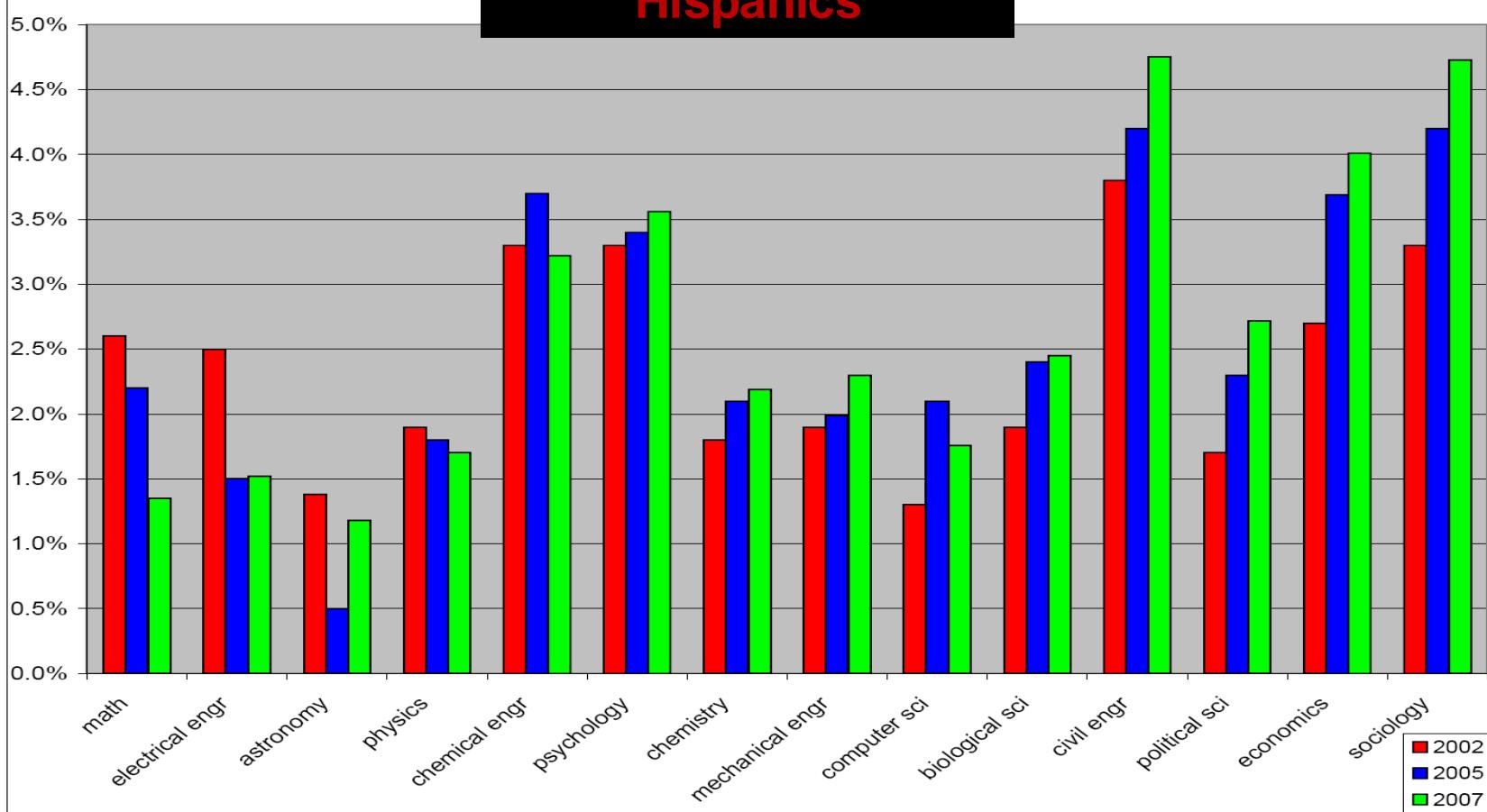
\*\*Asians were 4.4% of the 2006 US population

**National Crisis  
We Need More URM<sup>s</sup> in STEM Areas**

We are here but we are not there

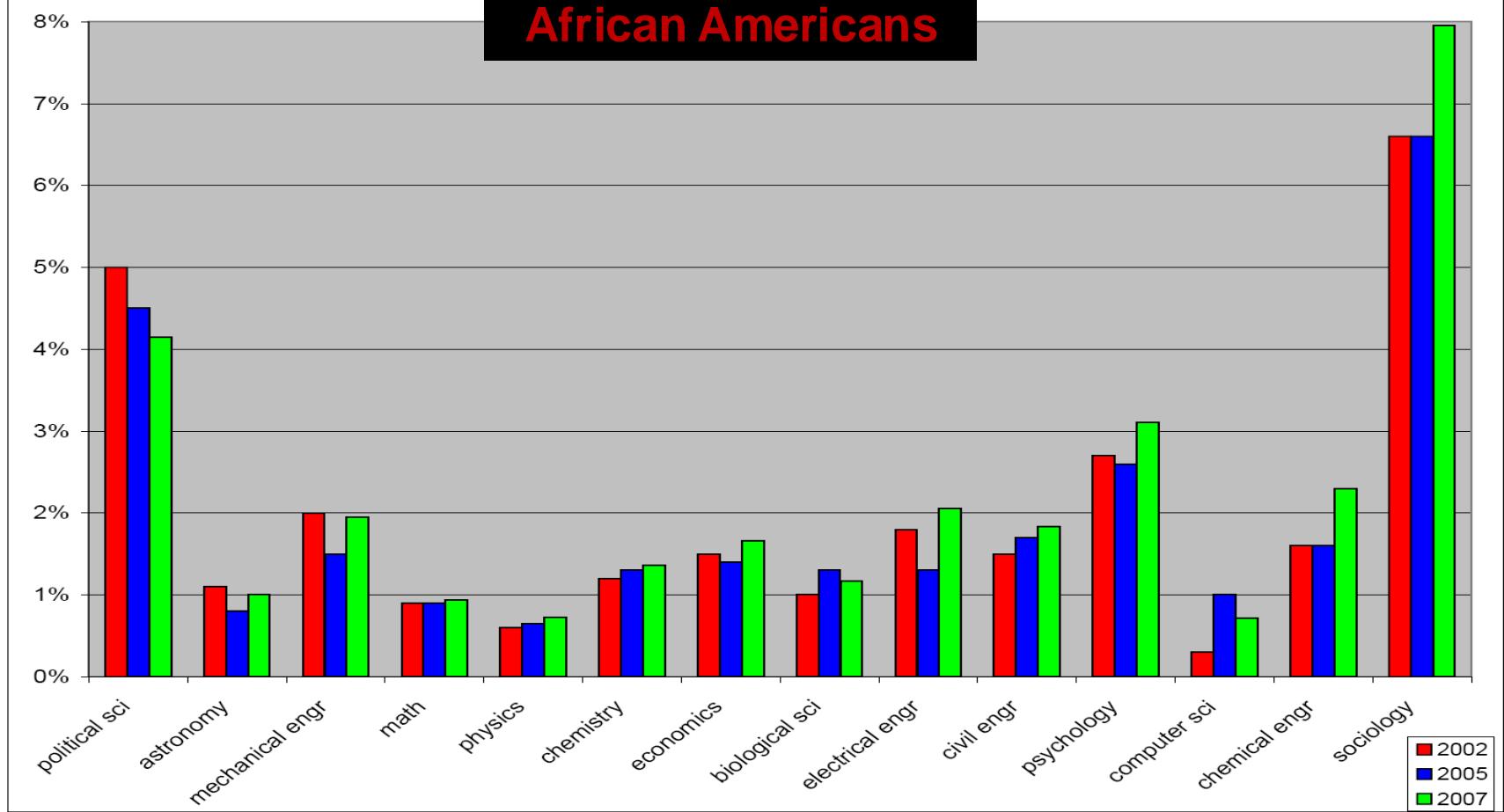
# In What Areas Do We Earn Our Doctorates?

# Hispanics



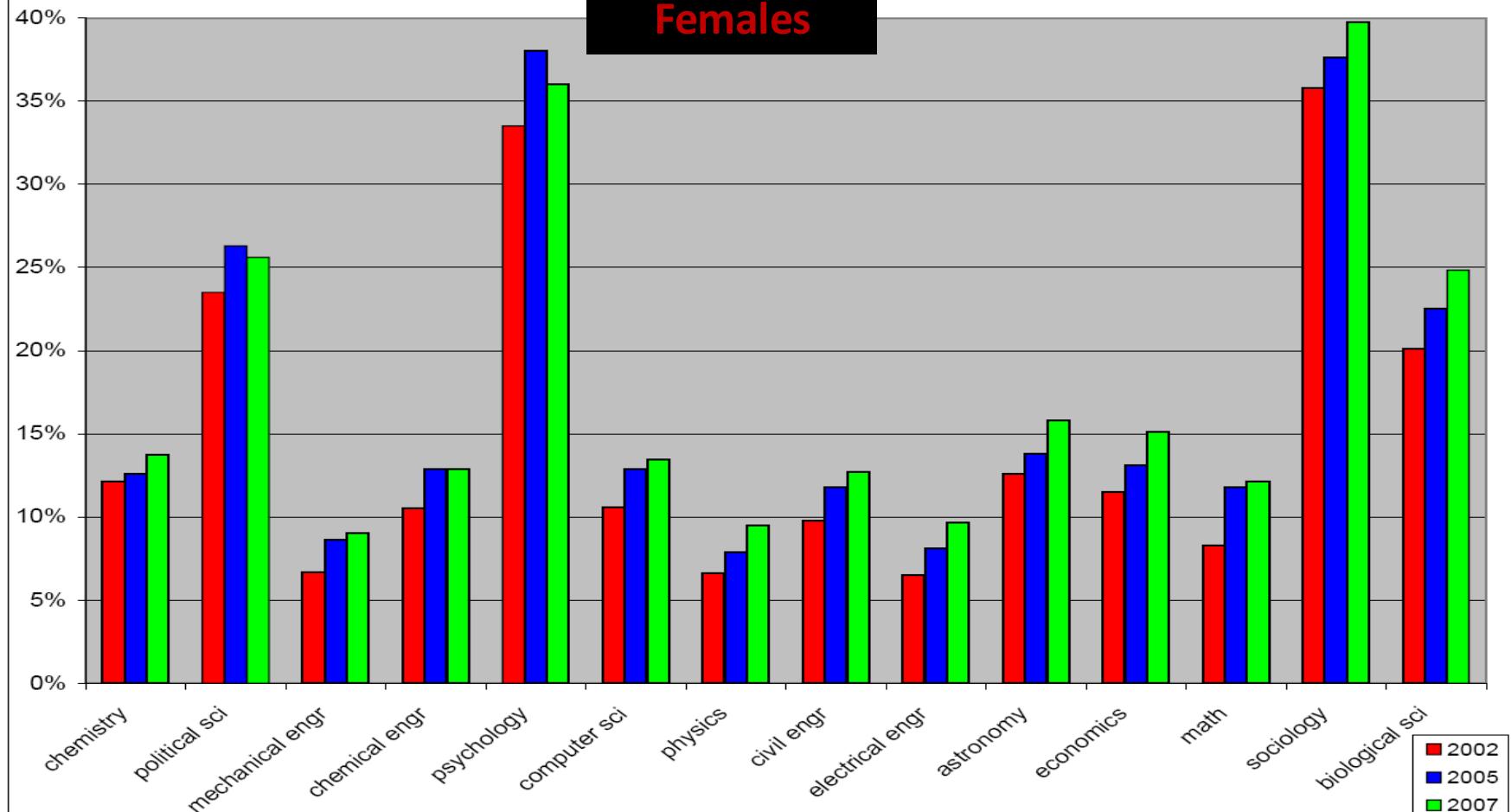
- Civil Engineering
- Sociology

# African Americans



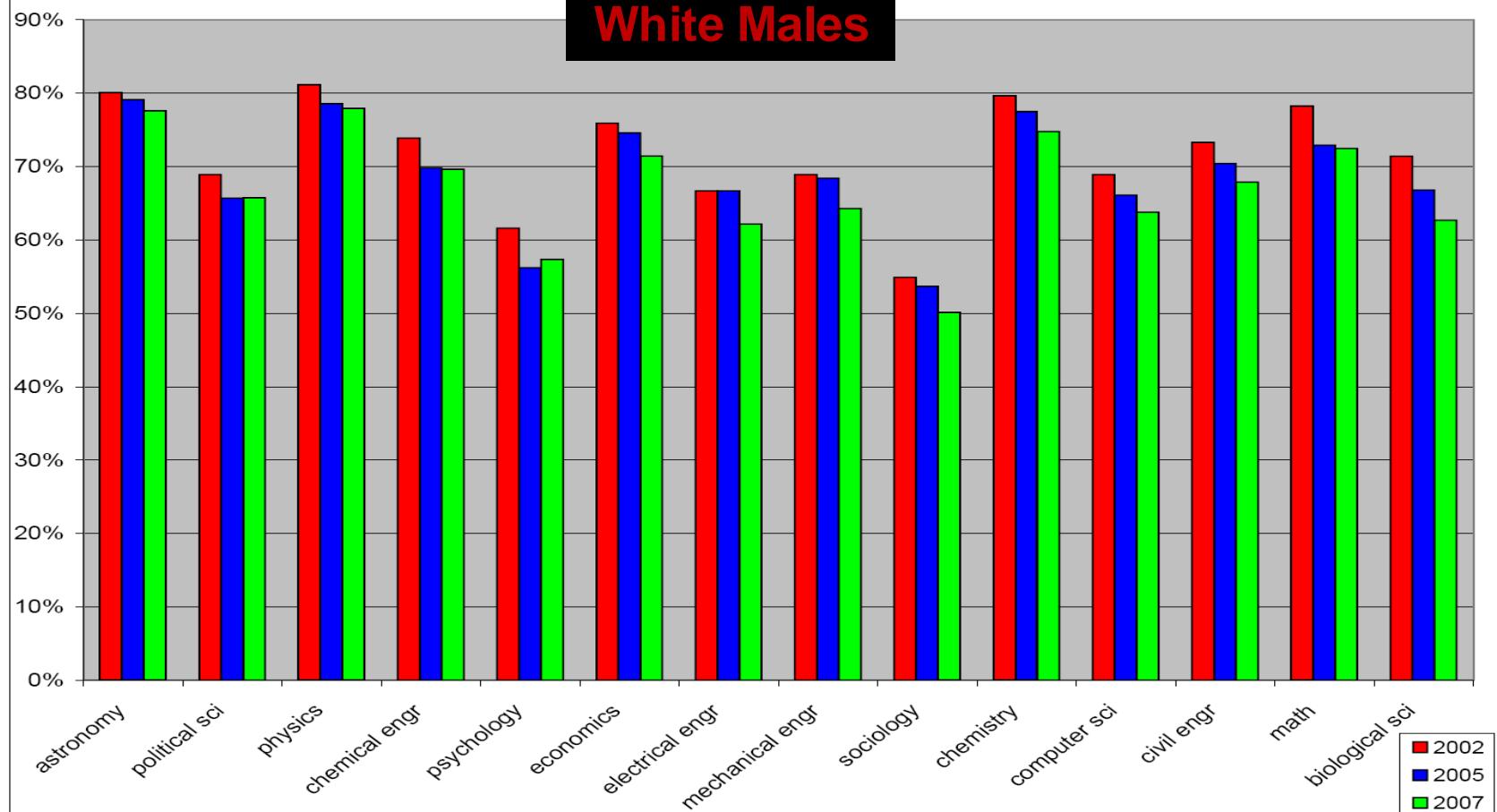
- Sociology
- Political Science

## Females



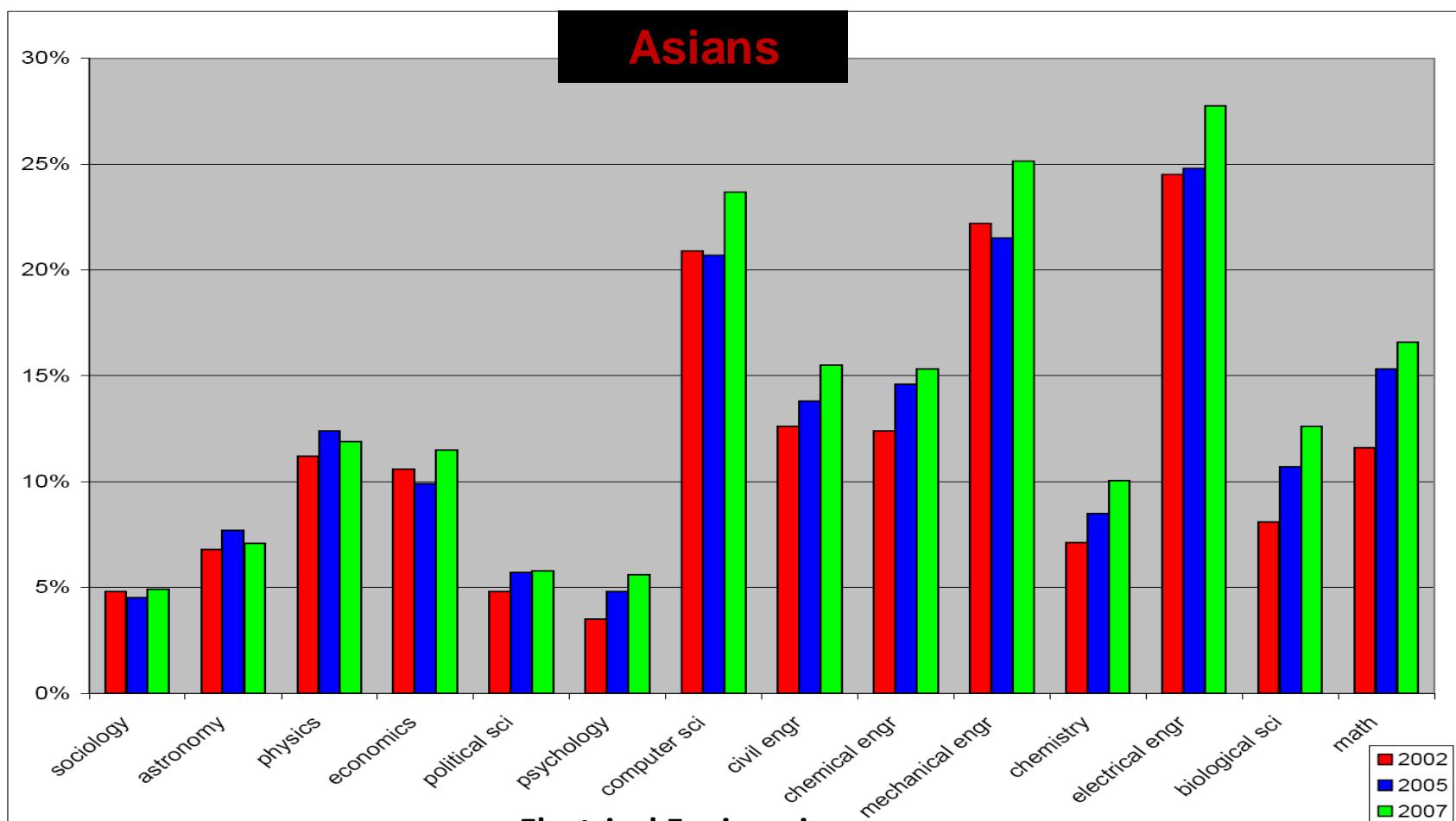
- Sociology
- Psychology

# White Males



Everything but Sociology and Psychology

# Asians



- Electrical Engineering
- Mechanical Engineering
- Computer Science

# An Outreach Success: The Tapia Center



ELA  
Undergraduate

AGEP  
Graduate

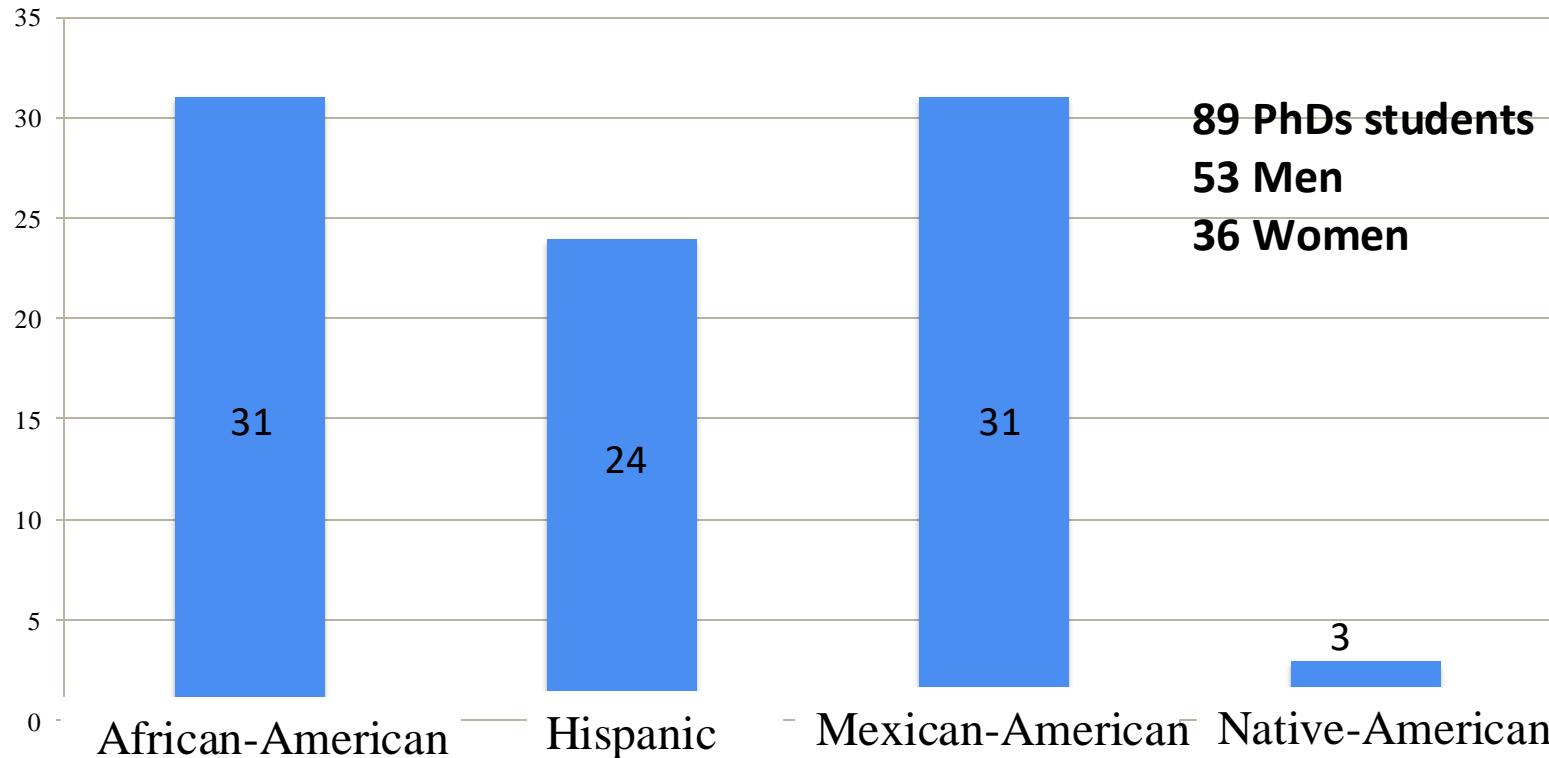
# The Tapia Center

The Tapia Center has provided training and guidance to more than 6,000 students and 2,500 K-12 teachers and educated almost a quarter-million students and professionals about the importance of diversity and representation.



# Tapia Center Efforts and Outcomes

PhDs (1999-2012)



# Academic Successes

1992

Elected to National Academy of  
Engineering  
(First Latino)

2005

**Selected as University Professor  
Rice University  
(First and Only Latino)  
(Sixth in Rice History)**

2011

# Dr. Richard Tapia Receives National Medal of Science



Only Latino to ever win this award



# My Mother's Teachings

Global Excellence

# Do I Belong?

Norbert Wiener  
Solomon Lefschetz  
H. Marston Morse  
Oscar Zariski  
John Milnor  
Paul Cohen  
Jerzy Neyman  
William Feller  
John Tukey  
Kurt Gödel  
Joseph L. Doob  
Peter Lax



# The Full Spectrum of Participation

- ◆ President Obama's Comments
- ◆ Jean's Performance

# Epilogue

## Concluding Remarks

# The Guiding Themes In My Life

“I am not the best, but  
I am Good Enough.”



*“If you sit on the porch with the big dogs, and occasionally bark like a big dog, the world will view you as a big dog.”*

**-Richard Tapia**

## My Two Greatest Accomplishments

- ◆ The National Medal of Science
- ◆ My 60<sup>th</sup> Wedding Anniversary

"There are many beautiful things to celebrate in this world, and one is the 60 years of marriage of Jean & Richard Tapia, and the amazing love and support they have shown for each other, and so many others. What a privilege to celebrate with them last night and much enjoy their dance."

David Leebron  
President of Rice University







# RICE | TAPIA

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**Est. 1998**

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# Thank You