

# 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 ★ ★ ★ 28c VOL. VIII NO. 60

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## 6.54 CLOCKED BY STELLINGS-TAPIA

### Orange County Meet Boasts Quickest Yet

**STELLINGS—6.54 E.T.**  
**ORANGE COUNTY INTER-**  
**NATIONAL RACEWAY, Orange**  
**County, Calif., Feb. 15—Bobby**  
**Tapia drove Larry Stellings' "Sil-**  
**ver Fox" to an unprecedented**  
**6.54 elapsed time during qual-**  
**ifying trials today at Orange County**  
**International Raceway.**  
**John Mitchell captured Top**  
**Fuel Eliminator with a winning**  
**time of 7.28 seconds.**  
**Ed Scherrens put together**  
**three decisive victories to defeat**  
**George Jay Liberman in today's**  
**featured funny car match. And**  
**Hill throwers debuted his new**  
**supercharged Top wheelstander.**

**QUALIFYING**  
 Twenty AA Fuel dragsters rolled through the pit gate this morning with one thought in mind: "What will it take to qualify?" 6.00, 5.0, or maybe a Top Fuel. But only one car turned in a better than average performance—the full-bodied "Silver Fox" of Larry Stellings. The 141 Prok pumped '68 Chrysler sounded sharp at Tapia, warmed the engine this morning. Stellings mentioned that he expected to cut a 6.00 one today—but 6.54! The "Silver Fox." The car's new mural was carrying a super low gear and the latest M & H's. The combination worked as Tapia sped to an all time low e.t. in three years. Stellings time was recorded on dual clocks and will stand as the track record. Exit, the of the short gear was seen

as the car recorded a top speed of 215.80 mph.  
 The "Red Mountain Boys" were next in the program. John Mitchell qualified the Crower equipped car in a short 7.16 seconds at 218.96 mph.  
 Jim Rice on hand with their new Fox Long car. The Minneapolis, Minnesota duo were looking good in the yet-to-be-painted car posting a qualifying time of 7.17 seconds, coasting through the lights at 190.00 mph.

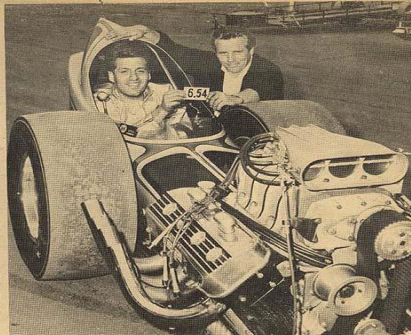
Mike Suvelly had no trouble qualifying Roland Long's beautiful "Blackburn" at 222.18 mph.  
 Bob Mayer qualified the "Speedmasters Special" with a tire-smoking 7.27 e.t. at 201.78 mph.

Not to be left out, Larry Dixon was in with a 7.28-212.78 clocking. The same roadster was carrying a full nose which makes the car look 20 feet long.

The "Alma Oil Tool Special" wound out the show with a 7.31 e.t. John Martin was at the wheel of John Bateman's old blue car today. John was giving his new full bodied machine a rest this weekend.

#### ROUND 1

Mike Suvelly brought the Keith Black charger to the line waiting for Stellings' "Silver Fox." Tapia was staged, as was Suvelly, and the two started the event. Tapia left first hoping to get the



It's not his helmet size pit! After a record breaking 6.54, Bobby Tapia may just need a new lid, as everyone from car owner Larry Stellings down wishes him well, turned congratulations. Photo by Joe 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

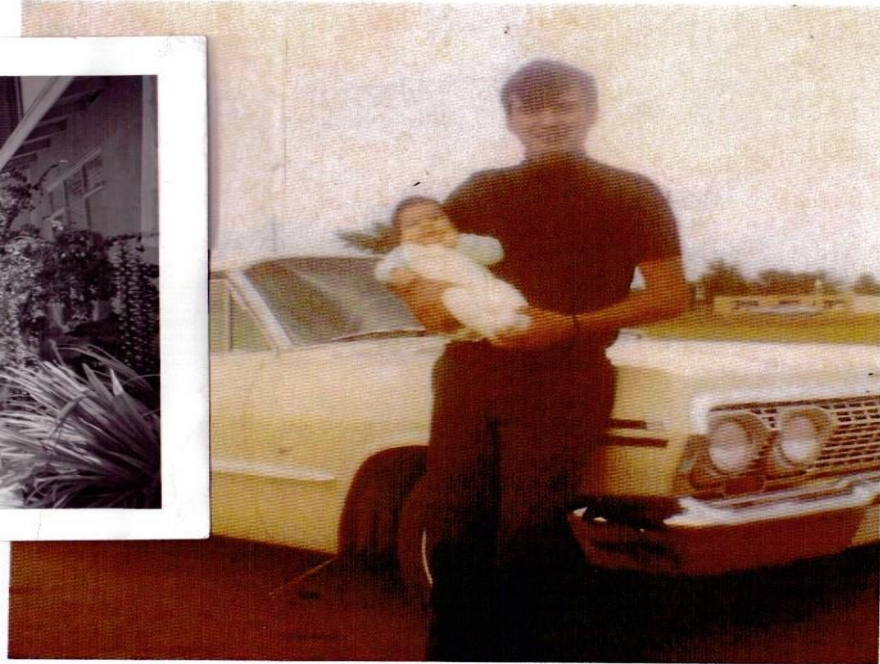
Happiness and Early Success



**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

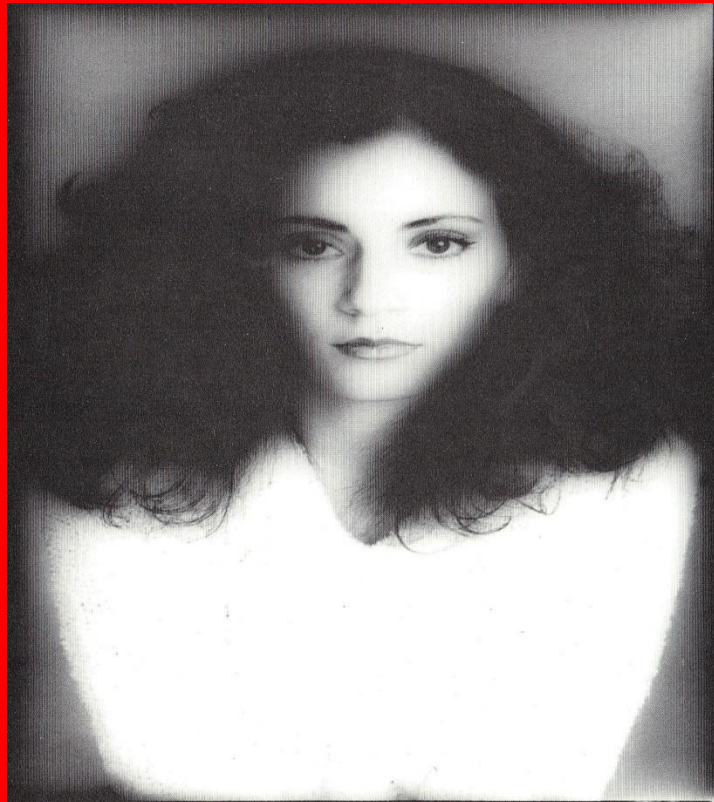
Personal Tragedies Along The Way

1977





1982



CIRCEE

**Jean**

**Three Strikes I Am Out**

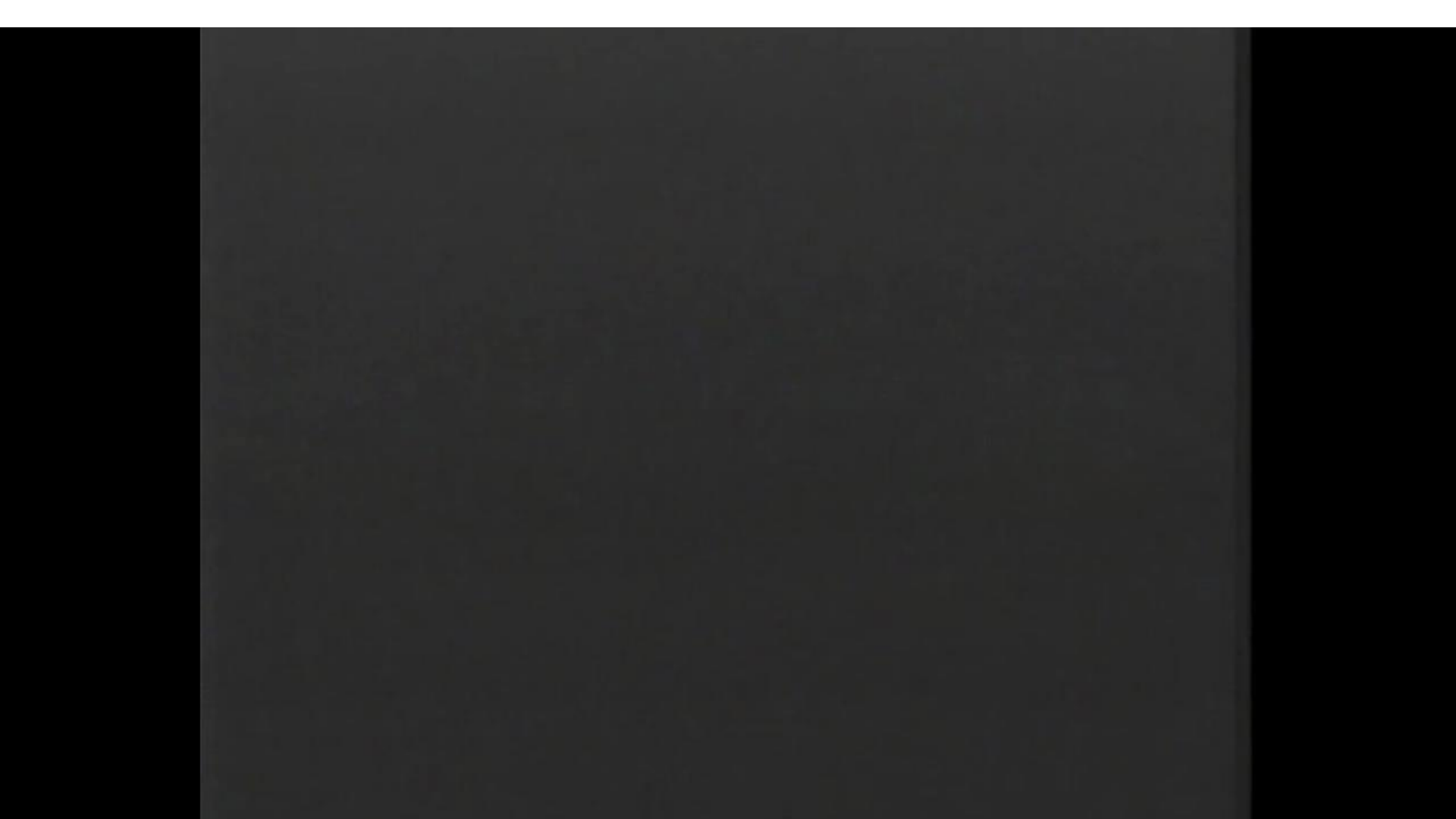


# Stage IV

## 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”











08/25/2003



06/30/2003





# **“Heavy Metal”**

Three Times National  
Show Car Champion

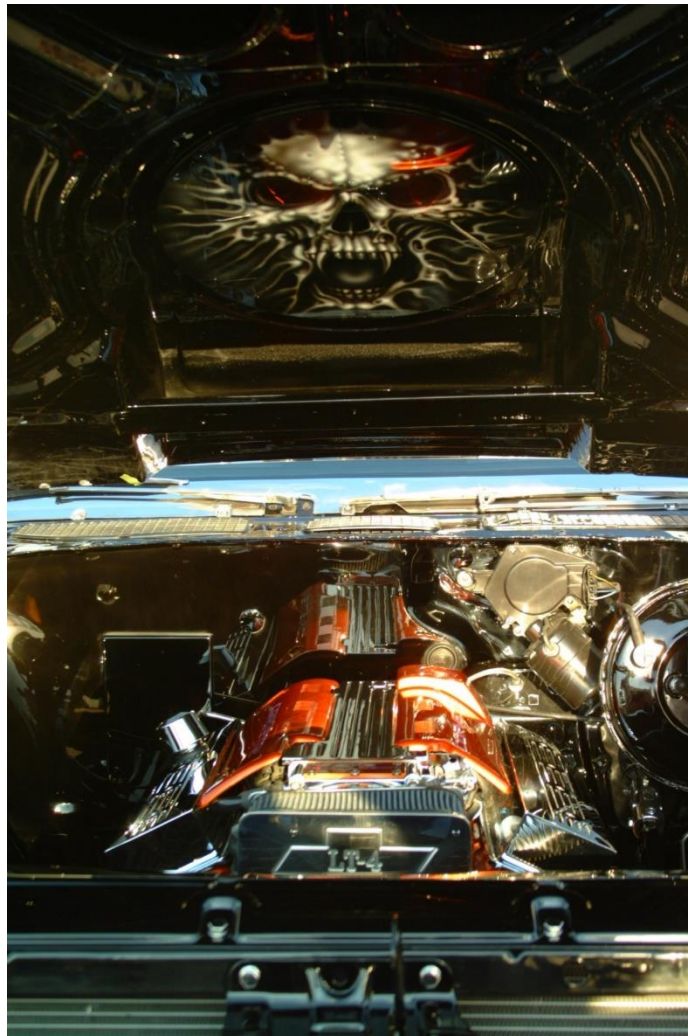












**“TOO ETHNIC”**





# BEST IN SHOW

BY GRANT PETERSON  
Photography by Mike Hargrave

It's funny how many little old ladies have been unknowingly stalked over the years by men who covet their budworthy, 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







Blackie Green & Paul Scott's R.T.  
47th Annual Fresno Autorama  
May 12-14, 1994

BUFFALO WILD WINGS

Supercut!

Highway Star  
Looks That Kill  
Paranoid  
You've Got Another  
Thing Comin'  
Whole Lotta Rosie  
Supercharger Heaven  
Seek and Destroy  
Blat the Technicolor  
Number of the Beast  
Ace of Spades  
Hot for Teacher  
We After Midnight  
Dr. Feelgood  
Deep Purple  
Mötley Crüe  
Black Sabbath  
Judas Priest  
AC/DC  
Vince Zombie  
Metallica  
White Zombie  
Iron Maiden  
Motörhead  
Van Halen  
Judas Priest  
Mötley Crüe

# **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





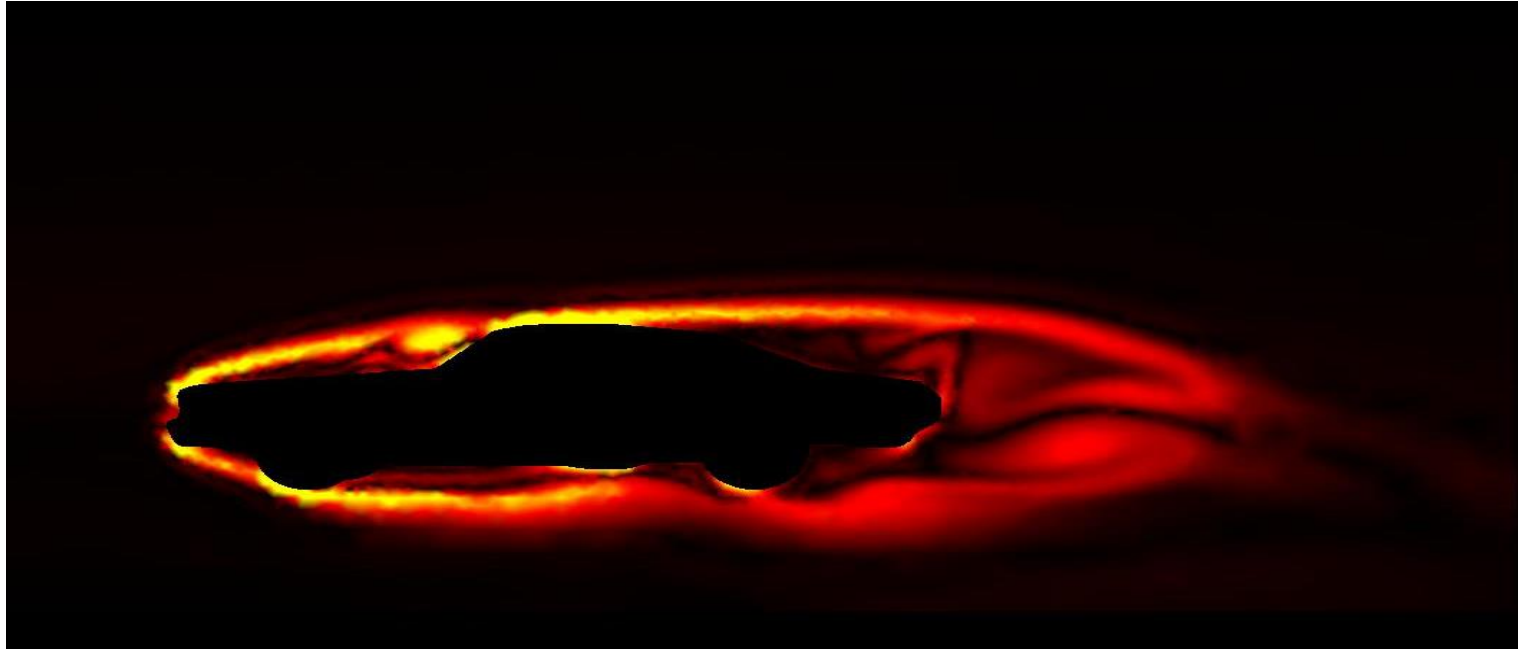
# Fluid Flow Simulation

Incompressible Navier-Stokes Partial  
Differential Equations

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

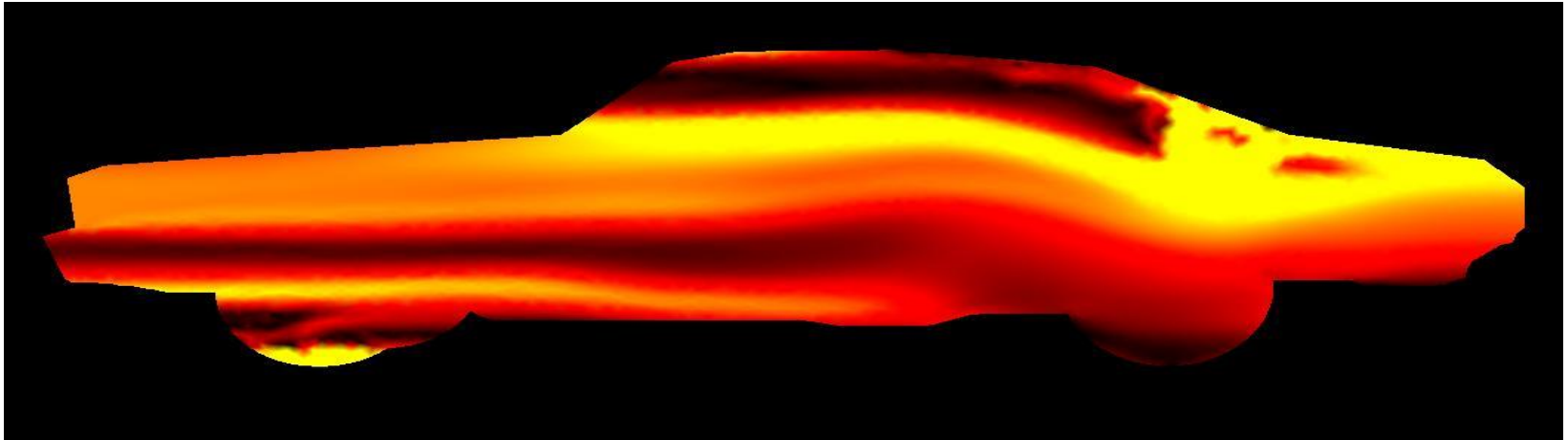
$$\nabla \cdot u = 0$$

# 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



## 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

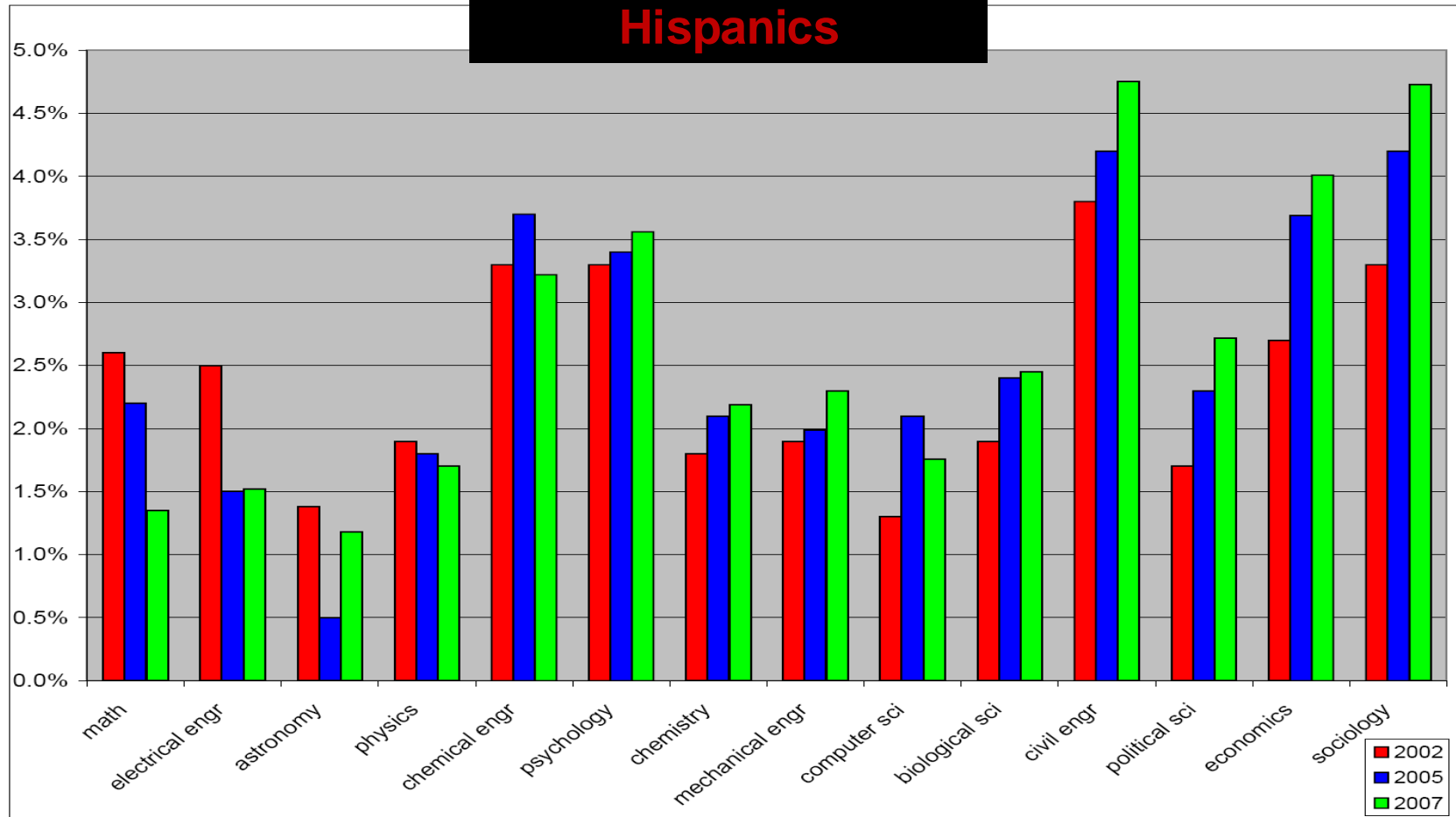
# **National Crisis**

## **We Need More URM's in STEM Areas**

We are here but we are not there

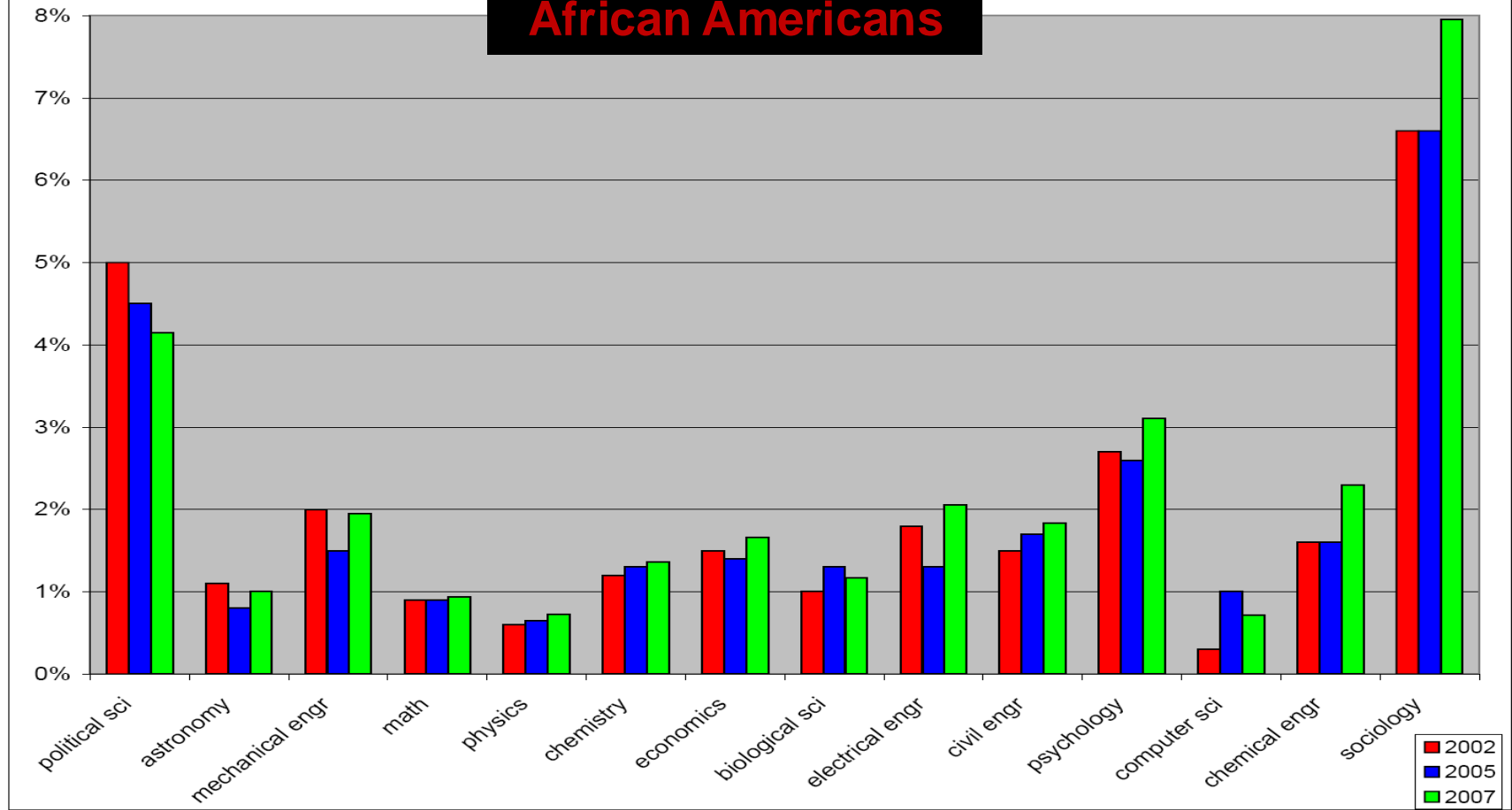
# **In What Areas Do We Earn Our Doctorates?**

# Hispanics



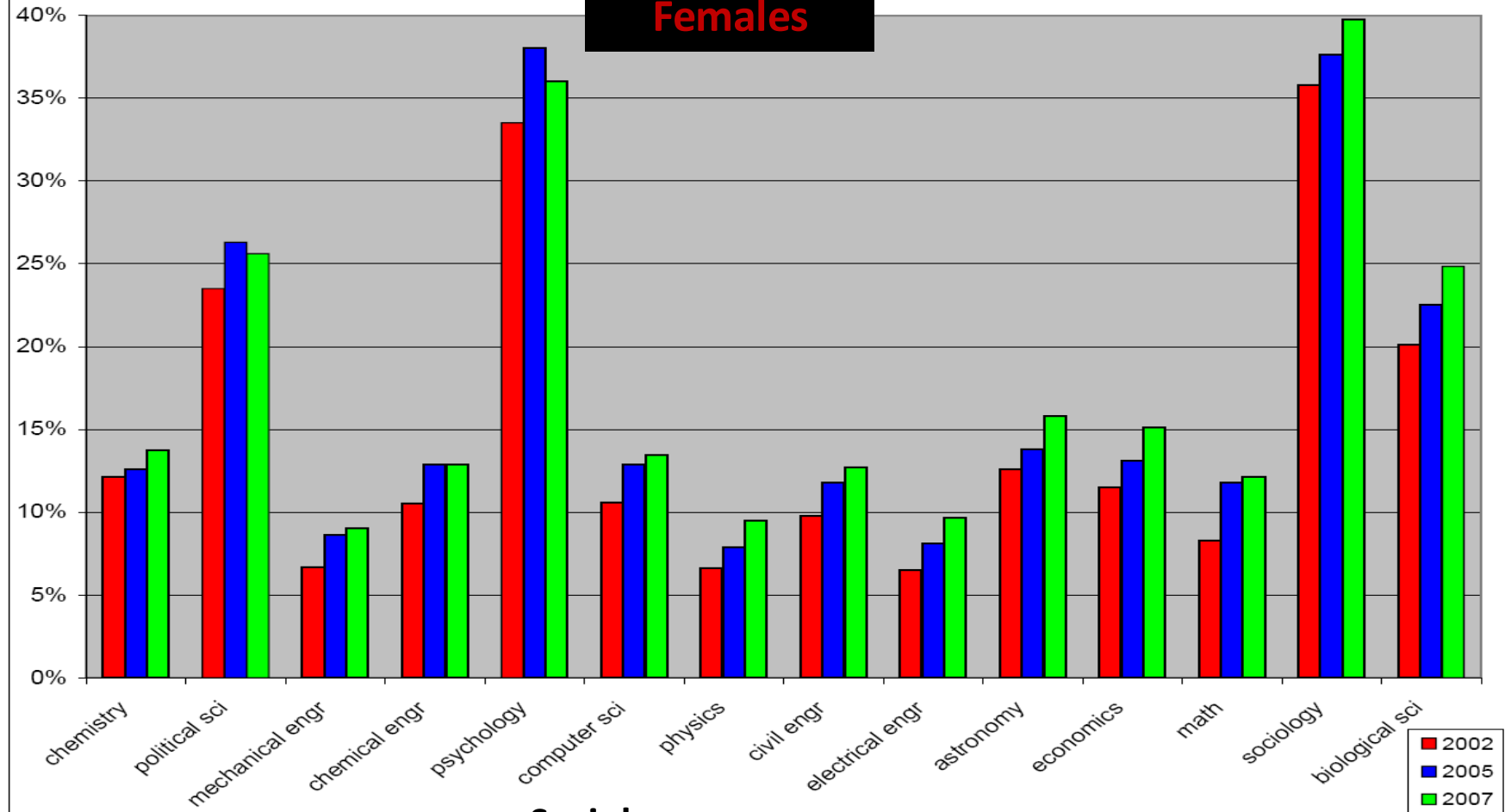
- Civil Engineering
- Sociology

## African Americans



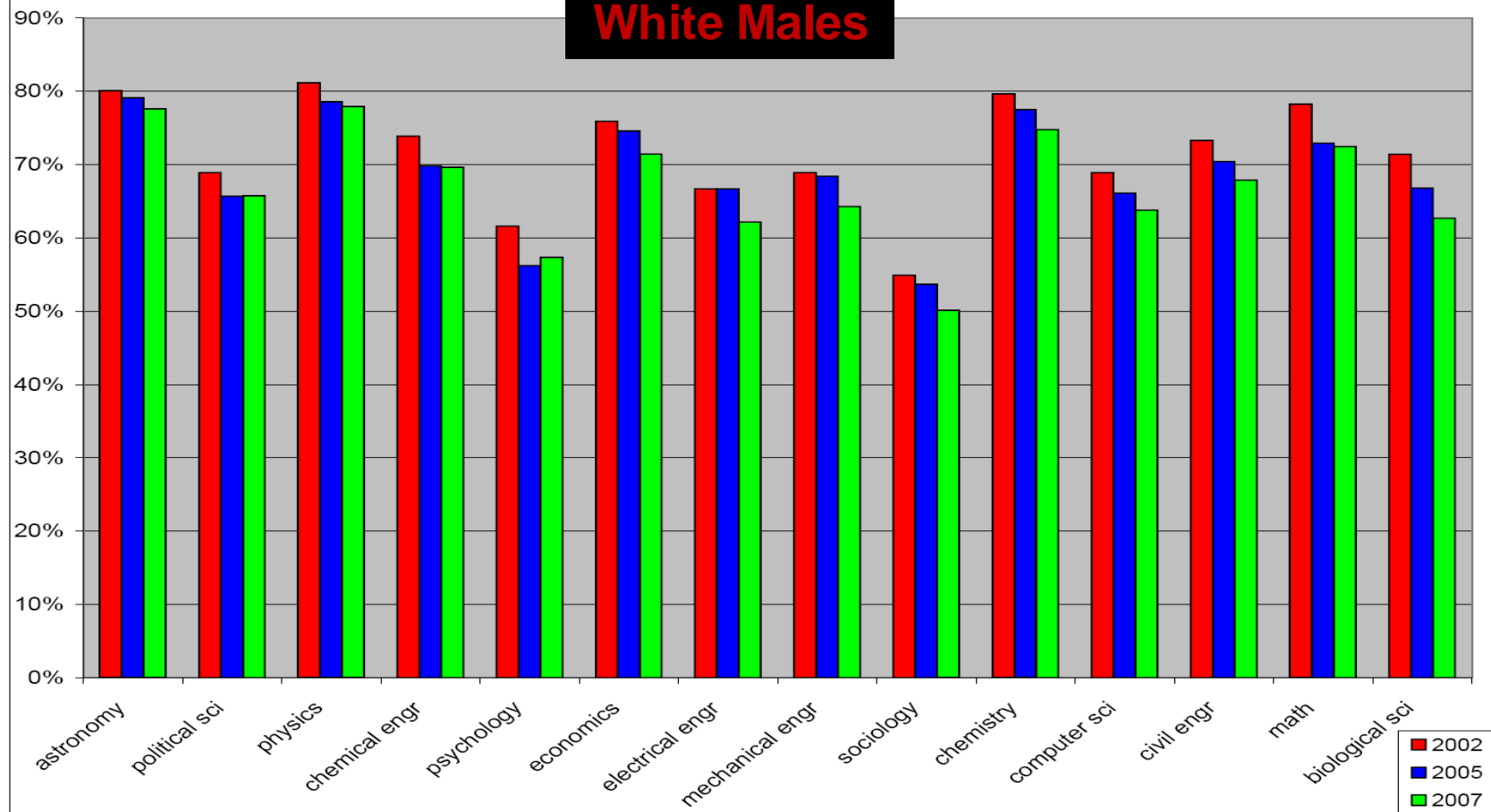
- **Sociology**
- **Political Science**

## Females



- **Sociology**
- **Psychology**

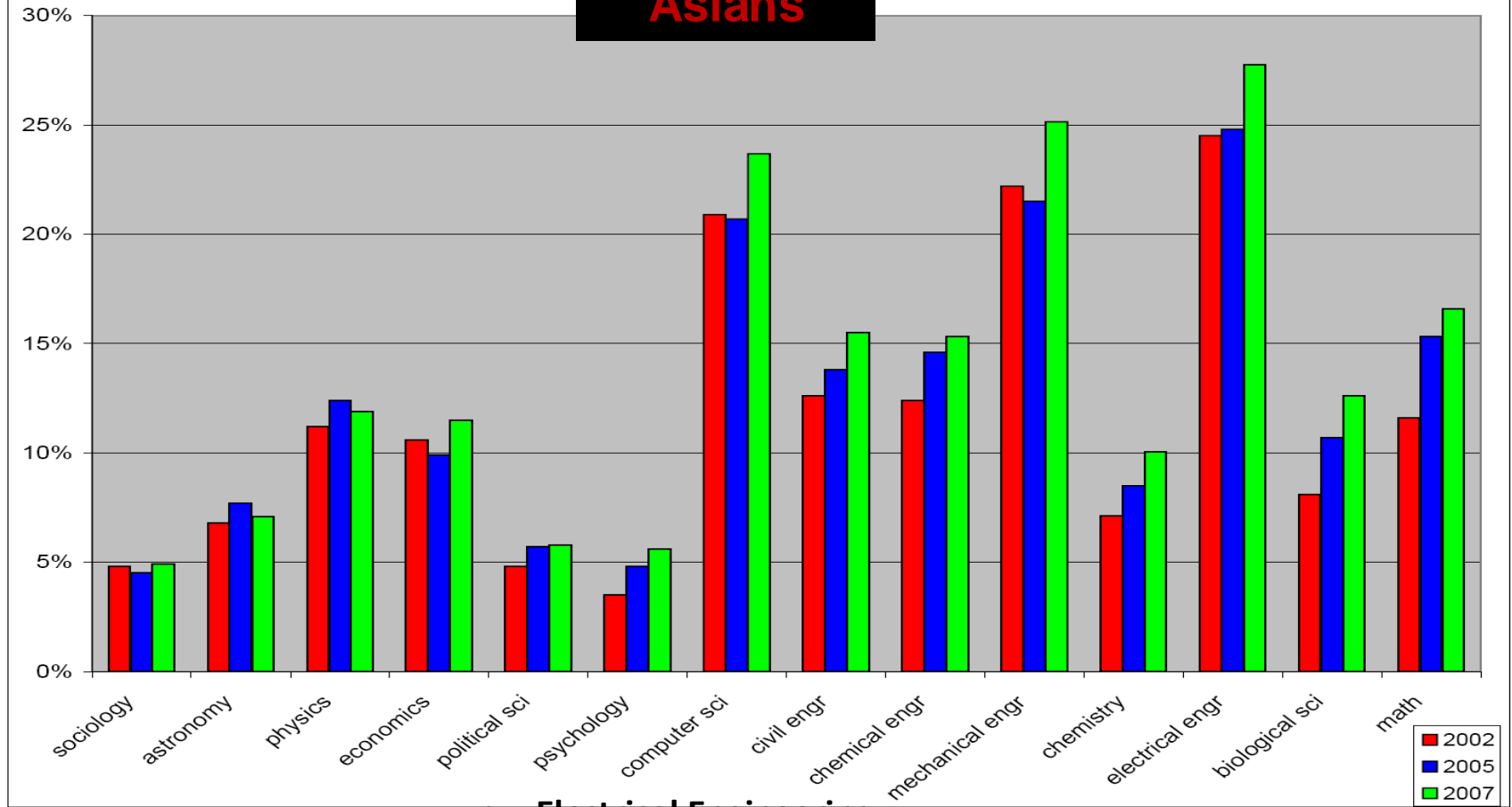
## White Males



**Everything but Sociology and Psychology**



# Asians



- **Electrical Engineering**
- **Mechanical Engineering**
- **Computer Science**

# An Outreach Success: The Tapia Center



ELA  
Undergraduate

AGEP  
Graduate

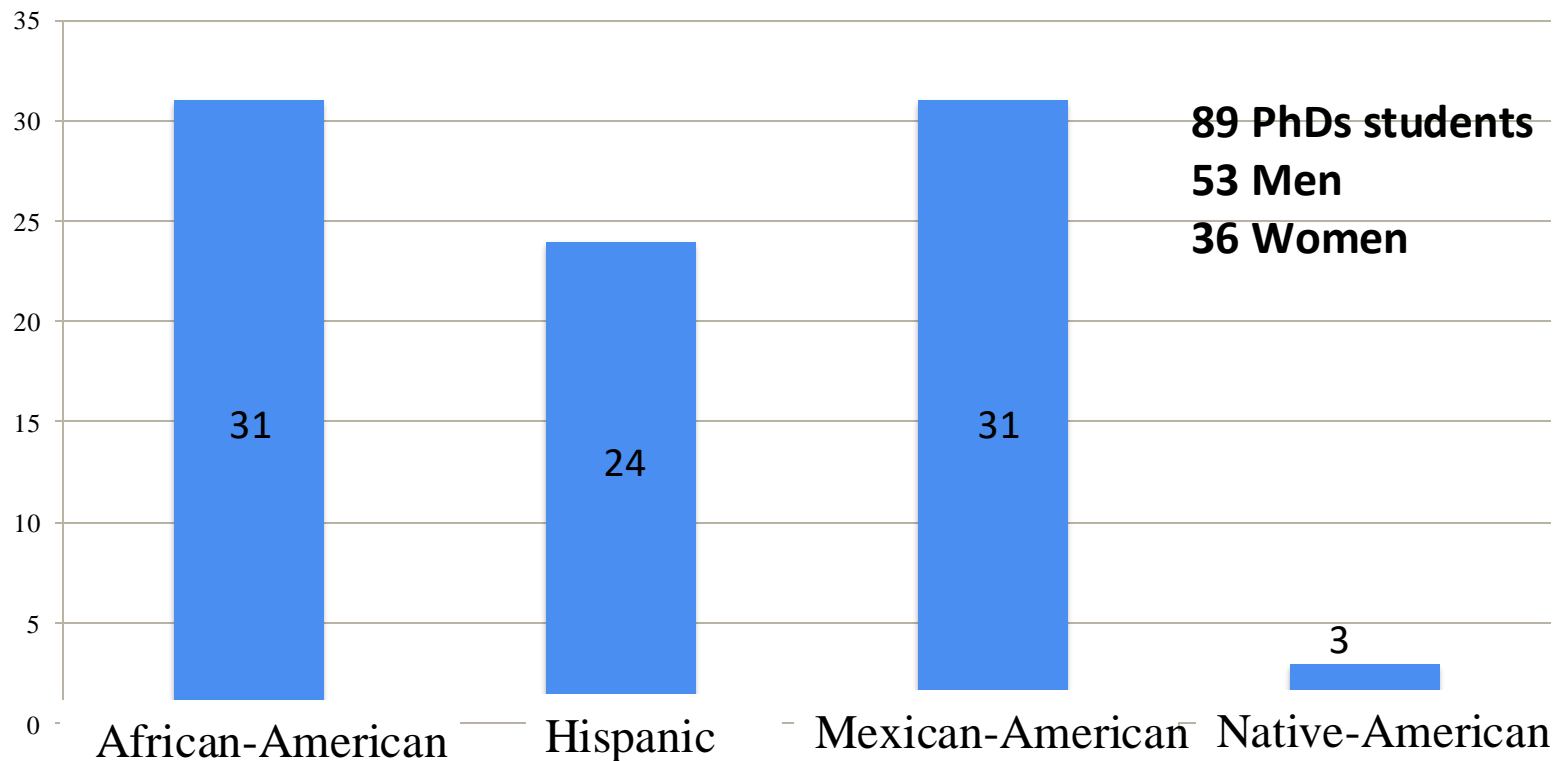
# The Tapia Center

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**