

Outcomes of small probabilities:

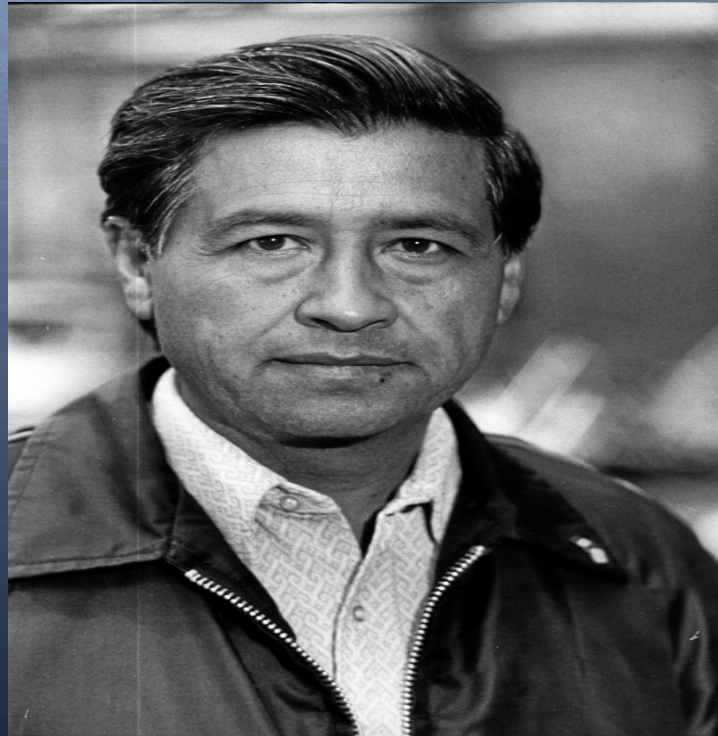
Personal reflections of a first generation college graduate

Rodrigo Bañuelos
Purdue University

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St. Louis, MO

“We cannot seek achievement for ourselves and forget about progress and prosperity for our community... Our ambitions must be broad enough to include the aspirations and needs of others, for their sakes and for our own.”

Cesar Chavez



Career at UCLA, UC Irvine as Student, Faculty, Dean, Assistant Provost, vice Chancellor, mentor of 100's of students!



Founder of "Hispanic Education Endowment Fund", recipient of many awards for his mentoring activities.


“... so, yes I was the first in my family to attend college, I realized what it meant in my life, and I have dedicated my life to encourage others to go to college!”

Stand tall on your ancestors' shoulders and mentor the next generation of leaders”

Dr. Juan Francisco Lara

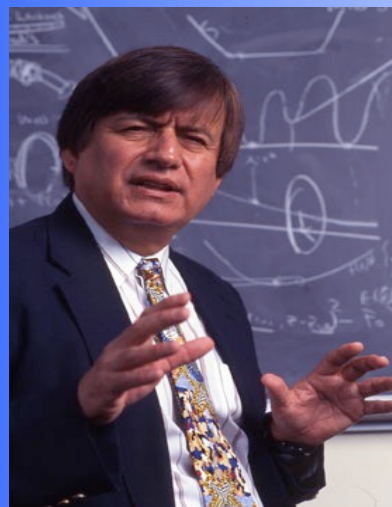
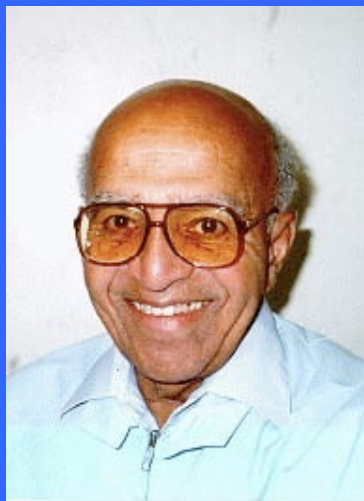
I am grateful to have had successful career measured by some academic norms

- B.A. UC, Santa Cruz (Honors in The Major), 1978
- M.A.T. UC, Davis (with a California HS teaching credential), 1980
- Ph.D. UCLA, 1984 , Probability
- Caltech Postdoc, 1984-1986
- NSF Postdoc, Urbana, 1987--mentor D. Burkholder
- NSF Presidential Young Investigator award 1989
- Arrived Purdue 1987, promoted to associate professor 1989, full 1992. Head of Department 2007-2011.

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- Invited to lecture on my research in every continent except Antarctica.
 - Have received my fair share of awards and recognitions: Fellow of the American Mathematical Society, Fellow of the Institute for Mathematical Statistics, Fellow of the Association for Women in Mathematics, ...

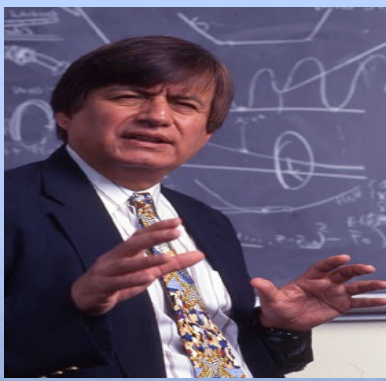
The Blackwell-Tapia Prize in Mathematics, IPAM 2004

“The Blackwell--Tapia Prize in Mathematics recognizes a mathematical scientist who has contributed and continues to contribute significantly to research in their field of expertise, and who has served as a role model for mathematical scientists and students from under-represented minority groups or contributed in other significant ways to addressing the problem of the under-representation in mathematics.”









On the Shoulders of Giants: Richard Tapia

- A Chicano Born and raised in Los Angeles. MATH Ph.D. UCLA 1967. One of the Founding Members of SACNAS.
- University Professor, Rice University, Only the sixth in Rice's 100--years history to hold this title.
- Richard has received countless awards and recognitions.
- (1) First Hispanic elected to National Academy of Engineering (1996)
- (2) National Medal of Science from President Obama (2011)
“for his pioneering and fundamental contributions to optimization theory and numerical analysis and for his dedication and sustained efforts in fostering diversity and excellence in mathematics and science education.”



On the shoulders of giants: David Blackwell (1919-2010)

- Born in Centralia, Illinois, 1919. Entered University of Illinois, Urbana, at age of 16, received a bachelor's degree in mathematics at age 19, a master's degree age 20, Ph.D. (1941) age of 22. His advisor was the renowned probabilist, Joseph Doob.
- Upon his graduation (1941) went to the Institute for Advanced Study at Princeton. During his time at the institute he was denied the right to attend lectures or do research at Princeton University because of his race. He left in 1942.
- Convinced that white universities would not hire him, he applied to all 105 HBCUs, obtained an instructorship position at Southern University in Louisiana, then at Clark College in Atlanta. He moved to Howard University in Washington D.C. in 1944.



- At Howard, Blackwell wrote many fundamental and deep papers in probability and applications, including his 1947 seminal papers “Conditional Expectation and unbiased sequential estimators,” and “A Renewal Theorem,” ...
- He was invited to speak at the 1954 International Congress of Mathematicians (ICM) in Amsterdam.
- Among other probabilists that spoke at the 1954 ICM were Jerzy Neyman, Joe Doob and Alexander Kolmogorov.
- First African American Elected to the National Academy of Sciences, 1965
- Elected to American Academy of Arts and Sciences 1968



- Awarded the National Medal of Science by President Obama (posthumously in 2012)
 - Visiting Professor at UC Berkeley 1954
 - Hired as full professor in the department of Statistics 1955
 - <https://youtu.be/Mqpf9tw44Xw>
 - Griffith Conrad (G.C.) Evans was Chair of Berkeley Math 1934-1949.
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- *(1) Notices of AMS, August 2011, “A tribute to David Blackwell.” (2) New York Times obituary, July 17, 2010*

Early Years: Why should I say that my academic life is (was) an events of small probabilities

- Born in La Masita, a campesino community, Zacatecas, Mexico. Parents never attended school. Father Mexican-American, mother Mexican.
- One of 8 children; second eldest. Life as a child: work on the family farm, no formal school but people (relatives) thought I was “inteligente”. Why? To this day I don’t know why!

- Family moved to US (Pasadena, CA) 1970, age 15 (few months short of 16).
- Started school in 9th grade. Did I learn anything? NO.
- Graduated high school, June 14, 1973.
- 1973: Pasadena City College: How? **Juan Francisco Lara**--UCLA Grad Student at the time.
- One year, two summers. Algebra I, II, trigonometry, chemistry, English—all elementary, high school level, **and three courses on Chicano studies**

My first meeting
with Juan Francisco
Lara at the Arroyo
Carwash, early
Summer 1973



605 S Arroyo Pkwy \$17.99 full carwash

- Spring 1974. Applied and was rejected by **ALL** campuses of the University of California (UCLA included).
- Entered UC Santa Cruz fall 1974. How? **Juan Lara & Ruben Rubalcaba** (Director of Especial Action/Equal Opportunity Program) at Santa Cruz. First time since arriving in the US not having (essentially) a full time job.
- Mentors at Santa Cruz: **Eugene Cota-Robles**, **Frank Talamates** (two of founding members of SACNAS) **Tony Tromba**, **Edward Landesman** (taught me calculus and real analysis and told me “you have mathematical ability.”)
- Graduated Santa Cruz 1978 with honors. Applied for Grad School. Accepted to several top programs.

Have a sense of Humor

<https://www.youtube.com/watch?v=DUCZXngRZgs>

*My Dr . of Thinkology
Diploma
University of Oz*

Universitartus Committiartum & Pluribus Unum

The Trustees and faculty of the University, by virtue of the authority vested in them have conferred on

Rodrigo Bañuelos

who has satisfactorily pursued the Studies and passed the Examinations required therefor the Degree of



ThD or Doctor of Thinkology

Nidia Bañuelos
President of the University

"Why, anybody can have a brain. That's a very mediocre commodity. Back where I come from, we have universities, seats of great learning, where men go to become great thinkers. And when they come out, they think deep thoughts and with no more brains than you have. But they have one thing you haven't got: a diploma."

--The Wizard of Oz

In support of Dr. Juan Francisco Lara's nomination for a Lifetime Achievement award, Orange County Hispanic Bar Association, 2009.

“Throughout my undergraduate career, my classmates, professors, and sometimes, even interested strangers repeatedly posed a similar set of questions. “Do you think you have gotten where you are because you are Latina?” “Do you feel any obligation to help people who share your racial background? When my father was...

If I ever meet Dr. Lara in person I plan to thank him, not only for helping improve my father's life, but also for changing the course of all of my family's lives and, perhaps, the lives of generations yet to come... This UCLA graduate student succeeded in the traditional way academic success is defined (today he is a Vice-Chancellor at UC Irvine) while simultaneously recognizing the need to share his successes with the community that shaped him.”

*Nidia Bañuelos,
Stanford BA, University of Chicago PhD*

Few things I learned along the way

- If at first you don't succeed, try again, and again, and again, ...
- Work “not as hard as you can” but “harder than you think you can.” But, but---ALWAYS HAVE FUN!
- Ability and Preparation are not the same thing. “Start at the right level.” Success builds confidence.
- Avoid comparing yourself to others.
- Find mentors, advisors,...,with whom you can share your frustrations, insecurities, successes and failures and who will give you constructive, encouraging advice.
- Explore opportunities: if you don't try the probability of success is zero, else is greater or equal to zero. Which one would you take?
- Have a hobby, have fun, ...





Thank you!