



# The Jessica Effect

## *The Importance of Invitations to Engage*

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Programs: PROMISE: Maryland's Alliance for Graduate Education & the Professoriate (AGEP), Louis Stokes Alliance for Minority Participation – University System of Maryland

April 29, 2016 – Gender Summit, Mexico City, Mexico



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Maryland's Alliance for Graduate  
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# JESSICA

**Chemical Engineer**



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# Jessica Soto Pérez

## The Legacy

- **Daughter of Antonio Israel Soto and Luz N. Pérez**
- Undergraduate degree: Univ. of Puerto Rico Mayagüez
- P. B. Certificate in Biochemical Regulatory Engineering
- Graduate School: Chemical & Biochemical Engineering (Research: *Novel methods for chromatofocusing*), University of Maryland Baltimore County (UMBC)
- Peer mentor: National Science Foundation (NSF)-funded Alliance for Graduate Education and the Professoriate (AGEP) PROMISE: Maryland's AGEP.
- Instructor: UMBC Upward Bound Math Science
- Member, American Institute for Chemical Engineers (AIChE)
- Member, American Chemical Society (ACS)

*The effect of pH transients formed by salt gradients on protein ion-exchange chromatography*

maryland news

## Victim 'a beacon of life'

*Mourning: Relatives and classmates seek answers in a murder-suicide at UMBC involving a husband and wife.*

BY JULIE BYKOWICZ

SUN STAFF

ORIGINALLY PUBLISHED JULY 1, 2004

Jessica Soto Perez was working toward a doctorate in biochemical engineering, hoping, her fellow students said, to one day return to her native Puerto Rico to teach.

Yesterday, her classmates and professors at the University of Maryland, Baltimore County, mourned the loss of a friend who, as one put it, "radiated her love for learning."



## Scholarship to honor slain UMBC student

CATONSVILLE -- The University of Maryland, Baltimore County plans to announce this afternoon the establishment of a scholarship in honor of graduate student Jessica Soto Perez, who was fatally shot June 29.

Starting a career in the exact sciences, one must consider more than academic preparation, one must consider effects on the personal life.



Past only focused on academic needs

[Late-night labs, early-morning experiments: problematic for family]

**NOW:** Family, and friends are actively “recruited” and invited to events.

Faculty/Administrators: **Recognize** and **value** the cultural and familial connections of their graduate students, postdoctoral fellows, and colleagues in the STEM disciplines.

Families: **Understand** the university experience, academic processes, and timelines

- a. Reduce feelings of isolation on the part of BOTH the students and family members
- b. Expand opportunities for family members to offer their students the support necessary for degree completion.

The “Jessica Effect”—a strategic institutional planning decision to definitively invite and actively include the family members and friends of graduate students, postdocs, and faculty in informative and celebratory events and programs.

*“I can relate to Jessica, having a husband who is Latino and not in academia...It was very important for my husband...to learn not to feel threatened or intimidated by my PhD-seeking peers.”*

*—Latina STEM PhD*

# Values – (FAMILY STRUCTURE)

- shape graduate students' performance and socialization into their departments and their graduate communities.
- for minority students are thought to be shaped differently from those of majority students.

Graduate students from **“collectivist cultures”** (e.g., Latino, African American) place strong emphasis on personal relationships in school, which may interfere with internally focused and task-driven characteristics that are needed for graduate school success. This is different from students from an individualist culture who may instead place more focus on traditional activities associated with advanced graduate work, and less focus on relationships to others in the program (Taylor and Antony 2000; Davidson and Foster-Johnson, 2001).

*“In Latin culture, family is more important than anything, even education...Ties in the family, especially among the women, are tight.”*

*—Latina biology Ph.D.*



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# Differences in “Culture”

## Collectivistic

- Collectivistic cultures are characterized by a worldview that values interdependence, belonging, and group-cohesion. Members of collectivistic cultures tend to evaluate their sense of worth, well-being and satisfaction with life based on the evaluation of external sources such as social norms, family expectations, relationships and interactions with members of their group. ***Families tend to include the nuclear unit, as well as extended family members and members of the community.***
- African-Americans and Latin-Americans are typically considered Collectivistic cultures.

## Individualistic

- Individualistic cultures are characterized by a worldview that values independence, autonomy, and self-reliance and the family is usually composed of the nuclear unit
- Western or Euro-Americans are typically considered Individualistic cultures.

# Psychological Sense of Community

- **Membership:** belonging to a community
- **Influence:** positive influence on student from others and ability to be positive influence and role model to others
- **Integration and fulfillment of needs:** members feel rewarded in some way for their participation in the community
- **Shared emotional connection:** opportunity to bond through shared experiences at retreats, conferences, monthly meetings, celebration of milestones

The “Jessica Effect,” relies upon professional development, community building, and the development of an “extended family” as factors necessary for mentoring and facilitating increases in retention, graduation, and transition to advanced STEM careers for underrepresented minorities in STEM disciplines.

*“Daughters are expected to commit time to helping the family... moving away from the family was difficult...This influenced my decisions in graduate school and now...”*

*-Latina STEM PhD*

McMillan, D.W., & Chavis, D.M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1), 6-23.

# Members of the Family

## Blood Relatives

- Parents
- Siblings
- Aunts
- Uncles
- Cousins
- Great aunts/uncles
- Second/third cousins

## Family ... formed through:

- Marriage & Relationships
- In-laws, and family of in-laws
- God-parents + family
- Friendships
- Intergenerational Friendships
- Neighborhoods, churches, community organizations

*“...When people move to another environment [e.g., graduate school in the U.S.], they miss the warmth of their Latin environment...People in the U.S. are nice, but their demeanor can be perceived as being cold...Many people from a variety of Latin American backgrounds miss the warm contact...and that is something that tends to be harder to get used to. This is why it is a good idea to be involved in programs that share the same ideals...it makes the transition easier...”*

*–Latina biology PhD*

# Invitations to Engage

Program Director, faculty, dean, staff

The University as Mentor:  
Lessons Learned from UMBC Inclusiveness  
Initiatives

*Volume One in the CGS Occasional Paper Series on Inclusiveness*

- ACTIVE (not passive) invitations (email, in-person, via social media)
- ACTIVE welcoming of family members
- DELIBERATE inclusion of family members in conversations
- INTENTIONAL hospitality
- Invitation to return
- Sharing celebrations that are special or important
- Open lines of communication to ask about important relationships, e.g., a grandparent that is as close as a parent, cousins who are like siblings
- Respect for holidays, family traditions – build in an opportunity for students to responsibly make up the work.





*“It was very important for my husband to be a part of PROMISE...he stopped judging folks as looking down on him...he became their friend...That made a big difference in our relationship...and had a strong effect on me.”*

—Latina STEM PhD



# Extended Academic Community *includes* students, faculty, administrators, and family



*Discussion about family, career-planning, emotions, even domestic violence*

# Jessica Alert *Puerto Rico*

- Include survey to assess family needs (medical or emotional) to help them find resources during conferences
- Include spouses as mentors for others in the same situation
- Maybe provide life coaches or family therapist sessions help in these meetings
- “How can we highlight spousal achievements or resources that can help them feel important in meetings?”
- Excellent; instructive exchange; “lots of ideas on how to nurture and strengthen your support system”
- “I have never seen this type of dynamic in a workshop. I think it was important because you need to take into consideration what could be going on in private, to a student.”



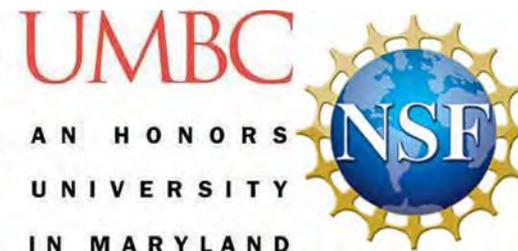
*“Key areas of difficulty include balancing work and family, and the lack of formal support from academic institutions to alleviate this situation, which primarily affects women...women need to be armed to battle this strong and unfair dilemma of choosing between science and family.”*

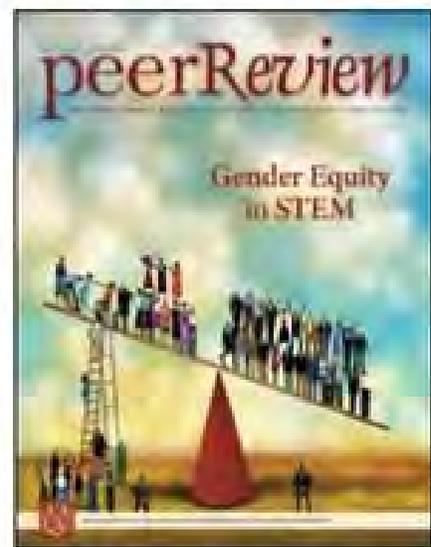
*-Latina Faculty Member, Biological Sciences*



# Superwoman Syndrome - Puerto Rico

One session, uniquely designed for family members, focused on the “Superwoman Syndrome” and exposed family members to the nuances of the family versus work conflict. **As a result, both spouses and children of STEM women faculty learned specific strategies for providing intellectual and emotional support and motivation for STEM women faculty.**





Spring 2014, Vol 16, No. 2

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Current Issue

Peer Review

## The Jessica Effect: Valuing Cultural and Familial Connections to Broaden Success in Academe

By: Renetta G. Tull, Patricia Ordóñez, Frances D. Carter-Johnson, Beatriz Zayas, Angela Byars-Winston and Maria Nandadevi Cortes Rodriguez

Jessica Soto-Pérez, daughter of Antonio Israel Soto and Luz N. Pérez, received her undergraduate degree from the University of Puerto Rico Mayaguez. She was a promising chemical engineering graduate student at the University of Maryland Baltimore County (UMBC) and peer mentor for its National Science Foundation (NSF)-funded Alliance for Graduate Education and the Professoriate (AGEP) program—PROMISE: Maryland's AGEP.



*UMBC y la familia de Jessica, en San Sebastian, Puerto Rico. La madre de Jessica tiene nuestro artículo, "The Jessica Effect" en el journal American Association of Colleges & Universities (AAC&U) Peer Review.*



“Este cambio caracteriza lo que llamamos el “Efecto Jessica”, una decisión estratégica de planificación institucional de invitar definitivamente e incluir activamente a los miembros de la familia y amigos de los estudiantes graduados en eventos y programas informativos y de celebración.”

**M. Cortes-Rodriguez, M. A., Nino, and R. G. Tull (2015).** Desde la Licenciatura Hasta el Doctorado: Los Sistemas de Apoyos Para Estudiantes de Posgrado en Instituciones Fuera de Su País y Lejos de Casa. *Revista Cruce*.

# Awareness, Policies, Resources

- A minimum assured period of **paid parental leave** of eight (8) weeks

- A one year **extension of the time for tenure review** for new parents

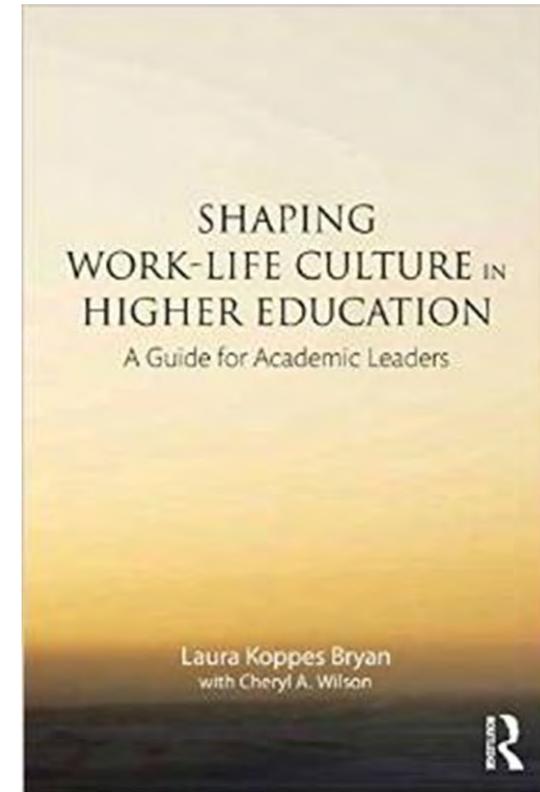
- **Leave and support options**, e.g., Collegially Supported Leave: Faculty members' academic responsibilities covered by colleagues, on a voluntary basis, for a period of time.

- Redistribution of Duties: **Adjustment** of faculty members' responsibilities among teaching, service, and research.

- Family and Medical Leave: Leave guaranteed by the federal government for a **life-changing event** (birth, adoption, or serious health condition).

- Development of an individualized "**Family Support Plan.**"

- **Workload modifications**, to the extent authorized by the institution and feasible within the faculty member's department.



# Acknowledgements



## Co-Authors:

- Dr. Patricia Ordóñez**, University of Puerto Rico, Río Piedras
- Dr. Frances D. Carter-Johnson**, NIH (now NSF)
- Dr. Beatriz Zayas**, Universidad Metropolitana
- Dr. Angela Byars-Winston**, University of Wisconsin-Madison
- Dr. Maria Nandadevi Cortes Rodriguez**, Smithsonian



This work received support from the National Science Foundation's ADVANCE Collaborative Research: Framing the Issue: A NETWORKing Workshop to Address Academic Advancement of Hispanic Women in STEM (# 1216490), and Collaborative Research: AGEP - T: PROMISE AGEP Maryland Transformation (#1309290); UMBC's Career-Life Balance Initiative (# 1446406)

**We acknowledge Dr. Douglas Frey (Jessica's chemical engineering graduate school advisor at UMBC), and the UMBC Graduate Student Association for developing the "Jessica Soto Pérez" award for graduate students. We give special thanks to Molly A. Hardigree Cancel (UMET) and Andrea Barrientos (Barrientos Consulting) for helping us to design the "Jessica Alert" workshop in Puerto Rico, and for their support with this project.**



***Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.***



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