

Erin Dolan; University of Georgia
(Moderator)

Renetta Tull; University of
Maryland, Baltimore County

Participatory Workshop on Effective Mentoring in STEMM: practice, research, and future directions
National Academy of Sciences, Washington, DC
February 9-10, 2017

*Innovations in Mentoring and
Developmental Relationships in STEMM*

Mentoring through Professional Development

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February 9, 2017



Mentoring through Professional Development

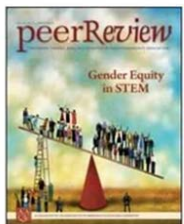


Considerations for Events

- 1) Workshop content
- 2) Alternative, 3rd space
- 3) Quality of the mentor
- 4) Delivery of service
- 5) Quality of the experience
- 6) Sense of community (PSOC)
- 7) Cultural Capital
- 8) Longevity of impact

The Jessica Effect – Internal Policy for PD events

Community & Family: Recognizing the Roles



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.

Traditional Thoughts:

- 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
- Inter-generational Friendships
- Neighborhoods, churches, community organizations
- ... Even school

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.



Sisters in the Dissertation House

A dissertation narrative about women of color creating a sisterhood in academia.

[See The Book](#)



The PROMISE Dissertation House: 143 doctorates



Annual PROMISE SUMMER SUCCESS INSTITUTE

#ThinkBigDiversity

THE HOTEL AT ARUNDEL PRESERVE | AUGUST 15, 2015

Co-sponsors & Partners





SSI Mentors-in-Residence: ~30, network, \$\$, jobs



Impact: PROMISE Alumni, Now STEM Faculty NSF, NIH, Career Awards, Tenure



Current projects are supported by: Collaborative Research: AGEP - T: PROMISE AGEP Maryland Transformation # 1309290, #1309264, and #1309256. 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.



<http://promiseagep.com>
#ThinkBigDiversity

Twitter: @PROMISE_AGEP
@Renetta_Tull

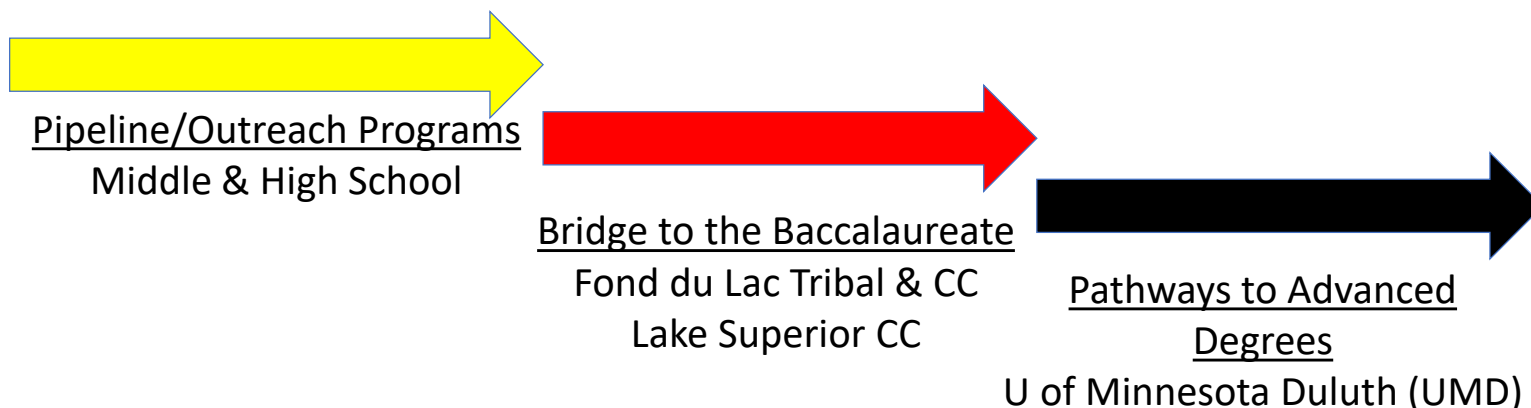
Amy Prunuske; Medical College of
Wisconsin

Mentoring for Human Flourishing



Amy Prunuske
Medical College of Wisconsin

U. of Minnesota Medical School: 20 years of Collective Impact Training Native American Scientists and Physicians



Benjamin Clarke - Bridges and Pathways programs

National Institute of Health/NIGMS 2R25 GM086669-05A1 and GM053403-12

Anna Wirta Kosobuski- Center for American Indian and Minority Health

Department of Health & Human Services HRSA #D18HP10618



Bridges to the Baccalaureate and Pathways to Advanced Degrees Programs

A. Summer Bootcamp

Problem-Based Learning

Responsible Conduct in Research

Laboratory Skills

Quantitative Methods & Modeling

Public Speaking & Writing

Working in diverse teams- Ecotonos

B. 2-year Mentored Research Experience



Collecting ticks for
Lyme disease research

Research on Mentors in Pathways

Amy Prunuske-	Molecular Biologist, Science Educator
Janelle Wilson-	Sociologist
Melissa Walls-	Indigenous Health Researcher
Ron Regal-	Mathematician
Hannah Marrin-	Former program participant
Benjamin Clarke-	Immunologist



Phenomenological approach: Learn about the research experience from the mentors and mentees.

1. Mentor interviews *CBE Life Sciences* 12: 403-409 (2013)
2. Mentee focus groups and Survey of Undergraduate Research Experiences *CBE Life Sciences* 15:3 (2016)

Mentoring themes

- Mentees' self-efficacy- confidence and motivation
- Mentees' science identity- belonging and purpose
- Effective communication between novice and expert
- Limited understanding of how diversity contributes to the student experience
- Barriers to the pursuit of PhD- Age and diminished enthusiasm by mentors

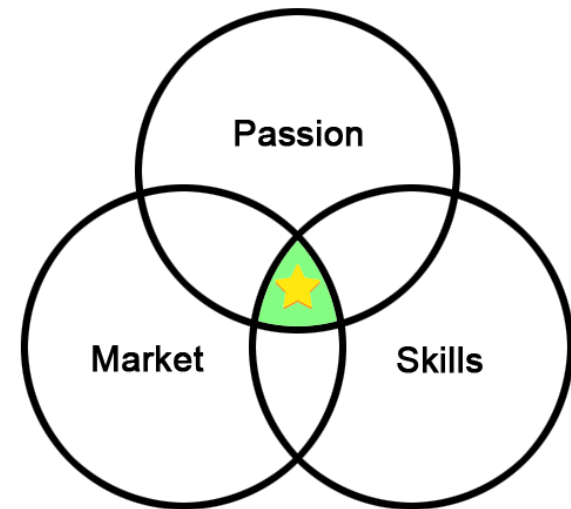


Mentoring strategies for Human Flourishing

- Growth mindset
- Promote belonging
- Mentor Training- National Research Mentoring Network

Good communication and explore issues of diversity and equity

- Peer mentors
- Mentors share stories with mentees
- Address unique person- passion, skills, market framework



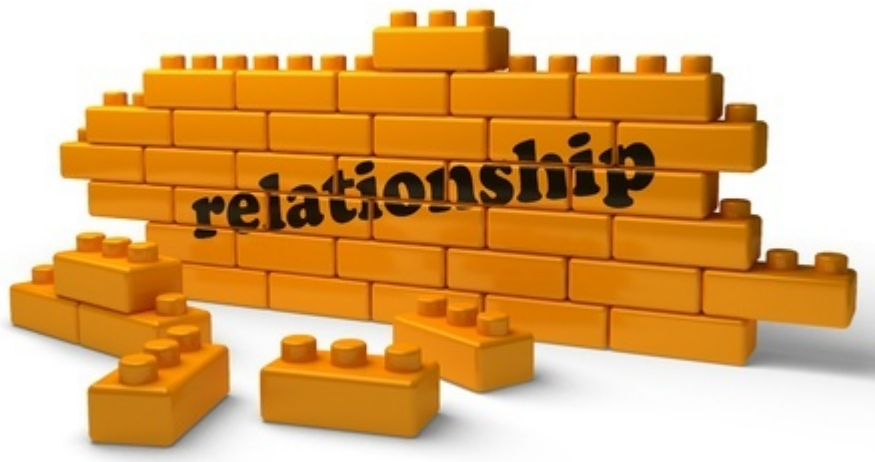
**Derrick Simmons; DC Public
Schools—Eastern High School**



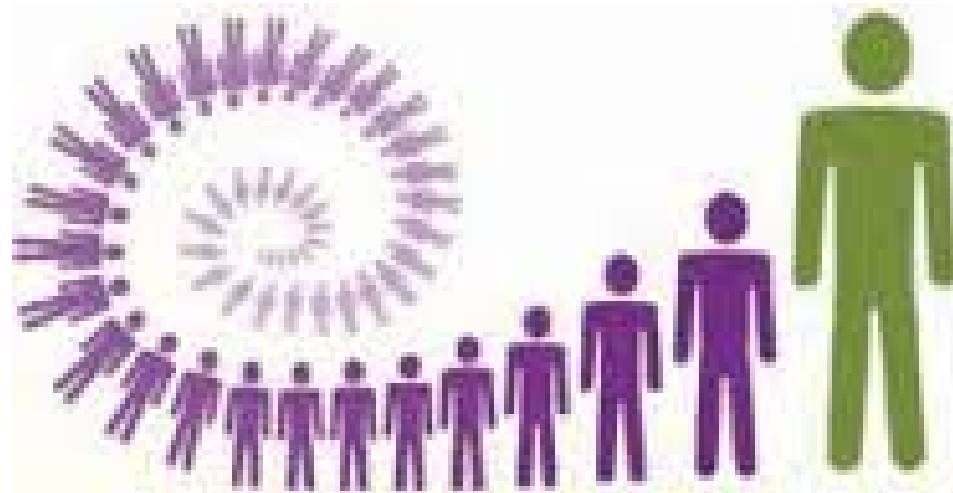


I Need A Mentor Who...

Build Relationships



Grows Me As A Professional



MfA

$$4 \sum_{k=1}^{\infty} \frac{(-1)^{k-1}}{2k-1}$$

Washington, D.C.

IMPACT

- My ratings have increased by 100% over the past three years.
- My pedagogy practices have significantly improved.
- I've garnered stronger relationships with my students over the past 3 years



Questions for the Audience

What moved you about this discussion?

What are you taking away from this discussion?

Think of a time that a mentor has done something particularly innovative to help you grow professionally or personally