

The Intersection of Mathematics and LGBT Identity Is Not Empty

Ron Buckmire

Outline

- Goals of this talk
- Biography
- Education
- Employment
- Extra Curricular Activities
- Questions

Abstract

I will discuss the ways that LGBT identity and mathematics have intersected in my life. This includes a recounting of the origins of Spectra, an organization for LGBT mathematicians, which dates back to a now-infamous Colorado anti-gay ballot initiative that was passed by voters in 1992 and struck down by the U.S. Supreme Court in 1996. I will also discuss the ways that my identity, as someone who is underrepresented in the mathematics community due to my race and sexual orientation, has played a role in my professional trajectory.

Goals

1. To provide example(s) of the way(s) that Mathematics and LGBT Identity intersect personally and historically
2. To provide you with information about my trajectory through the academy (as a Black gay man)
3. To encourage you to bring your **whole self** to all your endeavors

Biography

- Born in Grenada (May 21, 1968)
- Lived in U.S. 1970-1978
- Lived in Barbados 1978-1986
 - Secondary School: Combermere (established 1695) Famous alum: Rihanna!
 - (very) British school system (with high stakes exams at the end of each year and 'O'-levels at 16 and 'A'-levels at 18)
 - Excellent chemistry teacher (Mr. Barrett)
 - NOT excellent mathematics teachers

Education

- Rensselaer Polytechnic Institute in Troy, NY 1986-1994 (B.Sc. '89, M.Sc. '91, Ph.D. '94)
- Physics major immediately switched to Math
- Arrived on B-1 visitor visa changed to F-1 student visa then permanent resident then U.S. Citizen
- Did undergraduate research very first summer (paid to do math? What a concept!)
- Two Ph.D. thesis advisors: Julian Cole and Don Schwendeman
- Title: *The Design of Shock-Free Transonic Slender Bodies*

Employment/Teaching

- Occidental College, Minority Postdoctoral Scholar in Residence, 1994-1996
- Found out about position from then-chair of the Oxy math department (who was also openly gay)
- Oxy was ranked #1 or #2 most multicultural liberal arts college in the US at the time
- Immediately organized to ask for domestic partner benefits (implemented in 1995)
- Tenure-track in 1996, granted tenure in 2004, promoted in 2014, named Associate Dean in 2018

Employment/Teaching (cont'd)

- Had never taught a class before (RA only at RPI)
- First solo class was *Numerical Analysis*, created *Mathematical Modeling* course, revived *History of Mathematics*
- Taught *Differential Equations* and *Numerical Analysis*
- 1997, 1999, 2002 co-created and co-taught “Race, Gender and Justice” (gay marriage and internet literacy) in Occidental College’s first-year seminar program (CSP)
- 2009, 2010 and 2013 taught LGBT History in CSP
- 1999, 2003, 2005 taught American Studies in Multicultural Summer Institute
- Department Chair from 2005 to 2010 and 2015-16

Employment/Non-Academic

- 2011-2013 “rotator” (Program Officer) in NSF’s Division of Undergraduate Education (EHR/DUE)
 - Award decisions on ~\$20M of NSF awards
- 2016-2018 permanent EHR/DUE Program Officer
 - Program Lead for NSF Scholarships in STEM (~\$150M)
 - Program Lead for IUSE:EHR Mathematics (~\$6M/year)
- 2018-now Associate Dean for Curricular Affairs
- 2018-now Director of the Core Program
- 2018-now Professor of Mathematics

Extra-curricular Activities

- Came out as gay in Fall 1989 upon self-realization
- President of RPI's student LGBT group (1990-93)
- Openly gay elected graduate student senator at RPI
- Multiple college-wide diversity committees at RPI
- Created first repository of “gay stuff” on the Internet, the Queer Resources Directory, in 1991 (Netscape Navigator released in 1994!)
- QRD was successful plaintiff in 1997's U.S. Supreme Court ruling *ACLU et al v Reno* striking down Communications Decency Act (“The internet is for porn!” --*Avenue Q*)

Extra-curricular Activities

- 2006 co-created community-based learning course *Math, Education & Access To Power* to help teach algebra in LAUSD schools
- Served on innumerable college-wide diversity committees
- In 1994 co-founded Immigration Equality, L.A. chapter of LGBT immigrant rights group. (perm. res. 1998; USC 2003)
- Co-founded Barbara Jordan/Bayard Rustin Coalition (Black LGBT political advocacy group) in 2006
- Co-chair, Los Angeles County No On 8, 2008 (Prop 8 passed by less than 3,000 votes out of 3 million cast in L.A.)
- Blogging daily at **MadProfessah.com** from January 2005-2020
- LGBT Educator of the Year in 2011 from NOGLSTP
- Co-Founded LGBT & Allies group at National Science Foundation, co-organized first National Coming Out Day event in October 2012, gave inaugural pride speech June 27, 2013

LGBT+Math “Back in the day”

- **November 1992** Amendment 2 Passed by Colorado voters
- **November 1992** Nationwide LGB Community implements “Boycott Colorado”
- **January 1993** Boards of AMS and MAA agree to move 1995 JMM from Denver to San Francisco(!)
- **January 1995** First LGBT reception at JMM
- **January 2014** Spectra, an association for LGBT mathematicians and allies formed
- **June 2019** *Notices of the AMS* about Spectra
- **July 2020** Fields Institute holds LGBTQ+Math Day₁₂

LGBT+STEM Research

- **Bryce E. Hughes.** “Coming out in STEM: Factors affecting retention of sexual minority STEM students.” *Science Advances* 4.3 (2018). <https://doi.org/10.1126/sciadv.aao6373>
- **Jeremy B. Yoder and Allison Mattheis.** “Queer in STEM: Workplace experiences reported in a national survey of LGBTQA individuals in science, technology, engineering, and mathematics careers.” *Journal of Homosexuality* 63.1 (2016), pp. 1–27. <https://doi.org/10.1080/00918369.2015.1078632>
- **Ben Barres, Beth Montague-Hellen & Jeremy Yoder.** “Coming out: the experience of LGBT+ people in STEM.” *Genome Biology* 18, 62 (2017). <https://doi.org/10.1186/s13059-017-1198-y>
- **Erin Cech and Michelle Pham.** “Queer in STEM Organizations: Workplace Disadvantages for LGBT Employees in STEM Related Federal Agencies.” *Social Sciences*, 6(1), 12; (2017). <https://doi.org/10.3390/socsci6010012>

LGBT+STEM Research (cont'd)

- **Diana Bilimoria and Abigail J. Stewart.** “Don't Ask, Don't Tell': The Academic Climate for Lesbian, Gay, Bisexual, and Transgender Faculty in Science and Engineering.” *NWSA Journal*, Vol. 21, No. 2 (Summer 2009), pp. 85-103.
<https://www.jstor.org/stable/20628175>
- **Helen Grundman.** “The STEM Inclusion Study: What we've learned so far.” American Mathematics Society inclusion/exclusion blog (November 29, 2018).
<https://blogs.ams.org/inclusionexclusion/2018/11/29/the-stem-inclusion-study-what-weve-learned-so-far/>
- **Erin Cech and Tom Waidzunas.** “Navigating the heteronormativity of engineering: the experiences of lesbian, gay, and bisexual students.” *Engineering Studies*, 3(1), 1-24.
<https://doi.org/10.1080/19378629.2010.545065>

Questions?

Thank you.

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