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#### ACS Scholar Adunoluwa Obisesan

BS, Massachusetts Institute of Technology, June 2021 (Chemical-biological Engineering, Computer Science & Molecular Biology)

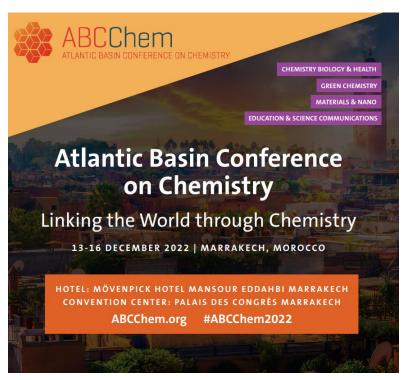
"The ACS Scholars Program provided me with monetary support as well as a valuable network of peers and mentors who have transformed my life and will help me in my future endeavors. The program enabled me to achieve more than I could have ever dreamed! Thank you so much!"

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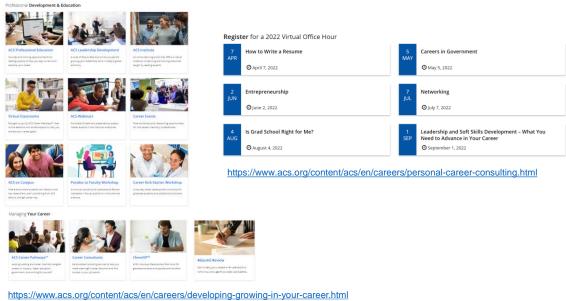


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#### **ACS Career Resources**





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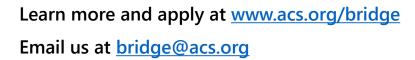
# **ACS Bridge Program**

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# Get in touch with the Office of Diversity, Equity, Inclusion & Respect

The Office of Diversity, Equity, Inclusion & Respect (DEIR) is the central hub at the American Chemical Society that coordinates, supports, and guides all efforts by staff, members, and governance toward Strategic Goal 5, "Embrace and Advance Inclusion in Chemistry." The Office of DEIR at ACS is committed to empowering everyone, irrespective of lived experience and intersectionality of identities, to fully participate in the chemistry enterprise. The Office of DEIR welcomes comments, suggestions, and questions around issues of diversity, equity, inclusion, and respect from members at any time. Please do not hesitate to reach out to the Office through this form.

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https://fs7.formsite.com/acsdiversity/ACSMemberFeedback/index.html



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Wed., June 29, 2022 | 2:00pm-3:00pm ET

## Chemistry and the Economy: 2022 Mid-Year Review

Co-produced with ACS Industry Member Programs and ACS Division of Business Development and Management



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Co-produced with ACS Division of Small Chemical Businesses and ACS Division of Business Development & Management

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# Impacts of gendered language on LGBTQ+ individuals in academia

ACS Webinar "Going Beyond the Binary" June 23, 2022



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What comes to mind when you hear the term "gender" and "sex"?

Enter whatever comes to mind on our Poll Everywhere poll

(May enter as many entries as you'd like!)

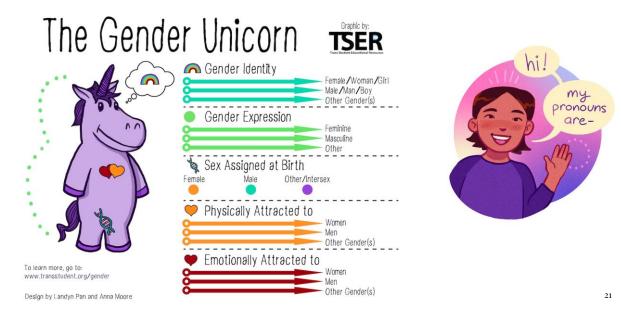
Go to <a href="https://pollev.com/lisaeytel735">https://pollev.com/lisaeytel735</a>

Or

Text LISAEYTEL735 to 37607 once to join, then text your SINGLE WORD answer



## Gender vs sex and other important terms



### Gender vs sex and other important terms

- Sex A medical/biological categorization of people based on physiological characteristics (chromosomes, hormone levels, secondary sex characteristics, and internal and external genitalia may also be considered criteria.
  - Terms to describe sex include female, male, and intersex.
- Gender Usually used as a synonym for gender identity.
- Gender identity Person's innermost concept of self as man, woman, blend of both, or neither; Perceptions
- · Gender expression External appearance of one's gender identity
- Transgender Person whose gender identity differs from those typically associated with the sex assigned at birth
- Cisgender Person whose gender identity aligns with those typically associated with the sex assigned at birth
- Nonbinary Person who does not identify exclusively as a man or a woman
- Binary Person who identifies as a man or a woman
- Agender Person who does not have a gender
- Gender nonconforming Person whose gender expression and behavior does not fit within the traditional expectations of their gender

Definitions adapted from https://www.hrc.org/resources/glossary-of-terms

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## As of 2020, 5.6% of Americans identify as LGBT

Ages of full-time college students (colleges maske the "next generation" of chemists) in 2019:

- Public, 4-year institutions: 90% = age 25 or younger
- Private, nonprofit, 4-year institutions: 86% = 25 or younger
- Public, 2-year institutions: 80% = age 25 or younger

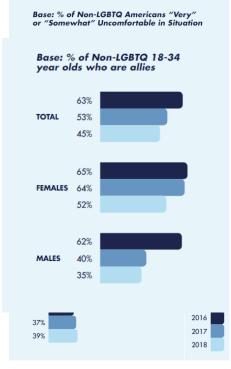
Millennial: born 1981-1996 (youngest turn 25 in 2021)

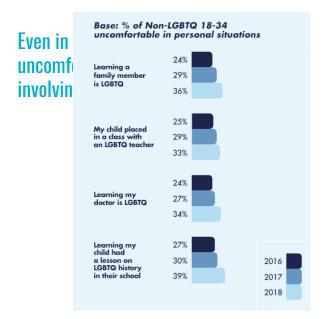
9.1% identify as LGBT (8.1% no opinion)

Generation Z: born 1997 - 2012 (youngest turn 9 in 2021)

• 15.9% identify as LGBT (5.2% no opinion)







Accelerating Acceptance 2019, Executive Summary: A Survey of American Acceptance and Attitudes Toward LGBTQ Americans; GLAAD, 2019.

Gallup Inc. https://news.gallup.com/poll/329708/lgbt-identification-rises-latest-estimate.aspx

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#### How does this impact students and faculty in chemistry?

#### That all important feeling of belonging...





Lesbian and gay chemists find workplaces more welcoming, transgender researchers seek greater inclusion

October 17, 2016 | A version of this story appeared in Volume 94, Issue 41



Exploring the workplace for LGBT+ physical scientists, 2019, Institute of Physics, Royal Astronomical Society, and Royal Society of Chemistry; Hughes, B. E. Sci. Adv. 2018, 4, eaao6373; Wang, L. Chem. Eng. News. 2016, 94 (41), 18-20. <a href="https://cen.acs.org/articles/94/i41/place-bench.html">https://cen.acs.org/articles/94/i41/place-bench.html</a>

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## Gendered language & behavior in the short(ish) life of this academic

In response to reviewer 2: He wants another experiment done.

Will you be wearing a dress [to a conference]?

"Excuse me, sir." - them; "I'm not a sir." - me; "Uh yeah, you kinda are" - them

The women staff and faculty plan social gatherings, send reminder emails, bring in cake, young graduate student life mentoring, etc. The men partake.

Woman: here's a great idea. \*Ignored\* Man: Here's a great idea. \*Praised\*

"Bossy, bully, and a know-it-all"

"You're problematic" with zero feedback on what to fix or how to fix it except commentary on personality

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### What about feeling comfortable in chemistry?

2015 campus survey of UC Boulder - 11% of students on campus identify as LGBTQ+ (~1% identify as trans or non-binary)

LGBQ students are 7% less likely to persist in STEM at the undergraduate likely than heterosexual counterparts

Hughes, B. E. Sci. Adv. **2018**, *4*, eaao6373. Kroll, J. A.; Plath, K. L. J. Chem. Educ. **2022** 99, *1*, 195-201. DOI: <u>10.1021/acs.ichemed.1c00374</u>

# Reminder: Identities change over time and college students are still growing!

Table 1. Changes in Gender Identity and Sexual Orientation among Respondents Who Took Both the Pre- and Post-Course Survey

reported changes in identity among respondents who took both surveys (n <sub>total</sub> = 568)			
pre-identity	post-identity	п	%
NB	Man	2	0.3
Man	Woman	1	0.2
Woman	NB	1	0.2
LGBQA	Straight	8	1.4
Straight	LGBQA	6	1.0

Kroll, J. A.; Plath, K. L. J. Chem. Educ. 2022 99, 1, 195-201. DOI: 10.1021/acs.jchemed.1c00374

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# How can you BE LOUD as an ally?

- SPEAK UP! Hear something, say something!
  - Feel like something might not be inclusive, say something!

#### STOP ASSUMING THINGS!

- Gender, pronouns, names, partner status, parenting status, accessibility needs, etc!
- Ask what somebody prefers if you are unsure Make space for conversations around gender identity
- Budget conference trips as if everyone will be in a single room then ask if anyone would like to share space and with whom
- If you are going to buy clothing for your lab, students, staff, etc. ask them their size and fit style (terms to use: snug, loose, slender, straight cut, curve cut, etc)
- When talking about gender or bodies, say what you actually mean

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# How can you BE LOUD as an ally to create an inclusive space?

- Introduce yourself with your pronouns.
  - Use they/them/their pronouns or the person's name when unsure about their gender identity
- Create opportunities for people to share their pronouns and preferred names on forms, at the start of semesters, etc.
- If you are collecting demographic data, separate trans identities from gender identities
  - Gender = woman, man, non-binary, unsure, queer, prefer not to answer, or prefer to self-describe (fill in box)
  - Trans = as simple as "yes, no, unsure"
  - Sex = male, female, intersex (ask yourself: do you need this?!)
  - Add orientation to your lists of demographics!
- Adopt a <u>universal design framework</u>
- Accept correction gracefully and create a specific plan to do better

#### A selection of resources on LGBTQ+ definitions and creating inclusive environments

#### Confused on pronouns and definitions?

- Introduction to Transgender Identities (Johns Hopkins)
   <a href="https://studentaffairs.jhu.edu/lgbtq/trans-resources/intro-trans/">https://studentaffairs.jhu.edu/lgbtq/trans-resources/intro-trans/</a>
- Trans 101
   https://www.youtube.com/watch?v=-3ZzpTxjgRw
- HRC <a href="https://www.hrc.org/resources">https://www.hrc.org/resources</a>
- What are gender pronouns?
   https://www.youtube.com/watch?v=LIMj
   25-nkhE

#### **Creating inclusive environment resources:**

- <a href="https://500queerscientists.com/resources/">https://500queerscientists.com/resources/</a>
- RSC LGBT+ toolkit is a great chemistry tool!
   https://www.rsc.org/new-perspectives/talent/inclusion-and-diversity/resources/lgbt-toolkit/
- Seven Ways You Can Foster a More Inclusive LGBTQIA+ Learning Environment https://www.facultyfocus.com/articles/equality-inclusion-and-diversity/seven-ways-you-can-foster-a-more-inclusive-lgbtqia-learning-environment/
- Contact GTCA officers:) <a href="mailto:gtca@acsprof.org">gtca@acsprof.org</a>

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Thank you!





#### Continue to be loud and take up space

**Jeremy Harper** (Boise State University) - co-designed and co-facilitator on a workshop for gendered language inclusive teaching strategies (Spring 2021)

ACS GTCA sub-division

Friends and fellow queers





Division of Professional Relations

lisa.eytel@ccd.edu Twitter: @profLisaE













#### Have familiar are you with the term STEM identity?

- · Very familiar
- I have heard of it, but can't define it
- · What is that?
- Other (Let us know in the questions box)

\* If your answer differs greatly from the choices above tell us in the chat!

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# What does it mean to decolonize chemistry and science?

Sambuddha Banerjee (they/she/he)
East Carolina University
Department of Chemistry



#### Land Acknowledgement

We acknowledge the Tuscarora people, who are the traditional custodians of the land on which we work and live, and recognize their continuing connection to the land, water, and air that Greenville consumes. We pay respect to the eight state-recognized tribes of North Carolina; Coharie, Eastern Band of Cherokee, Haliwa-Saponi, Lumbee, Meherrin, Occaneechi Band of Saponi, Sappony, and Waccamaw-Siouan, all Nations, and their elders past, present, and emerging.

(Taken from ECU SGA website)



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"Because "STEM" carries associations with socioeconomic privilege, whiteness, and masculinity, realization of a STEM identity is more fraught for individuals who fall outside of this demographic prototype."

Dou and Cian. J. Res. Sci. Teach. 2022;59:458–490.

- 1. What demographic information about student and faculty are gathered by the academy?
- 2. What happens to that information?
- 3. What an assimilative feminist approach in the STEM equity work can look like?
- 4. What would a disruptive feminist approach in STEM equity work look like?

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# Audience Survey Question ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT

What is your opinion on the following statement: DEI efforts in STEM acknowledges the personal identities of its participants.

- Completely agree
- Agree
- Neutral
- Disagree
- Completely disagree

\* If your answer differs greatly from the choices above **tell us in the chat!** 

38





"Teaching to transgress. Education as the practice of freedom"

## Decolonize chemistry-the why and how?

- To recognize the colonial history of the (Eurocentric) academy
- To identify the who and what were/are excluded from the academy
- To investigate the affects of this exclusion on those communities
- Multipronged and critical strategies to disrupt the status quo

#### 42

# What did we do in the course?

• Recognize this is unchartered territory

CRT "Interdisciplinary approach that seeks to understand and combat race inequity in society" Gloria Ladson-Billings

- This is taught in a seminar style with structured reading assignments followed by unstructured conversation.
- Keep in mind the very important learning from **Critical Race Theory** (CRT), that the aim is to transition from personal ranting to identifying how those rants are a products of systemic problems.
- Assignments included interpretation of art, writing summery of readings, and writing intervention plans from students' lived experience while in ECU STEM departments.

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#### Unit-1: What is feminism to you and why/if we need feminist science?

#### Core ideas/questions of the unit:

Identifying what feminism means to students in their personal and professional spheres. This then led to a conversation on if a feminist identity can be forged for these students.

Then we explored if science done by feminists and a feminist way of doing science are the same.

Unit 1 (Jan 11st-Feb 27th): Getting familiar with feminisms and its language The aim of this unit is to learn the history of American feminist movements and their goals/outcomes. By the end of this unit, we should be able to critically evaluate DEI efforts in the academy and their limitations.

Feminism is for Everybody by bell hooks (Week 1)

- Chapters 1 FEMINIST POLITICS Where We Stand
- Chapter 8 GLOBAL FEMINISM
- Chapter 10 RACE AND GENDER

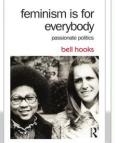
Teaching to transgress. Education as the practice of freedom by bell hooks (Week 2)

- Chapter 8 Feminist thinking. In the classroom right now
- Chapter 11 Language. Teaching new world/new words

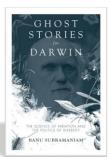
Ghost Story for Darwin by B. Subramaniam (Week 3)

• Chapter Interdisciplinary haunting (Introduction) Suggested reading: Sister outsider by Audre Lorde









4

#### Unit-2: How would feminists' approach medical sciences, the past, present, and the future.

#### Core ideas/questions of the unit:

Learning how during the colonial time gender, race, and sexualities were created as air-tight categories using science and the legal system. Identifying how those still impact the way we teach and do science.

From HeLa and Tuskegee to COVID-19. The racial and gendered nature of medicine and the work done (or not done) to undo it.

Unit 2 (Feb 1st to Feb 25th): The history of disenfranchising and a critique of the modern academic diversity work

This unit will introduce us to the interconnectedness of capitalism, capitalist exploitation of the nature and labour, as well as the extraction and exploitation of the womb and the nature. We will also be learning about the history of the modern American medicine and the importance of knowing these history.

The Death of Nature: Women, Ecology, and the Scientific Revolution, by Carolyn Merchant (Week 1)

Chapter 6: Production, reproduction, and the Female from The Death of Nature

Medical Apartheid: The Dark History of Medical Examination on Black Americans from Colonial Times to the Present, by H. A. Washington (Weeks 1-4)

- Chapter 1: Southern Discomfort: Medical exploitation on the plantation
- Chapter 4: The surgical theater: Black bodies in the Antebellum clinic
- Chapter 13: Infection and Inequity: Illness as crime

On being included. Racism and Diversity in Institutional Life, by S. Ahmed (Week 4)

THE DEATH OF CAROLYN MERCHAN





#### Chapter 2 The language of diversity

Suggested reading

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#### Unit-3: Black (Quantum) Feminism using the philosophical ideas of the collapse of wave property of electrons, the Copenhagen interpretation

#### Core ideas/questions of the unit:

Is the doom of human history inevitable? How quantum mechanics and feminism converge to provide alternative possibilities.

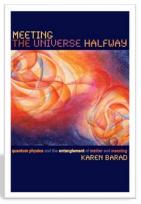
The philosophy of scientific representationalism and its subjectivity.

Unit 3 (Mar 1st to Mar 18th)

This unit will expose us to the non-linearity of time from a quantum mechanical perspective as well as its similarity with the way time as been imagined and practiced in several Black and Brown cultures. We will explore the idea of time-space collapse using artistic and political expressions, such as Afrofuturism and Black quantum feminism. Using philosophy of science concepts, we will problematize the core objectivity and universality ideas in STEM

Meeting the Universe Halfway, by K. Barad Chapter 1: Meeting the universe halfway

Lectures on black quantum feminism



#### **Unit-4:The continued "othering" in STEM**

#### Core ideas/questions of the unit:

Identifying how POC and colonized people have been blamed for the climate crisis without exploring the history of this crisis.

Who is paying for the climate crisis the most?

Unit 4 (Rest of the semester)

In this unit we will read original research articles from different STEM disciplines that use race, gender, sexuality, colonization, and cis-heterosexist capitalism as their axes.

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#### **Assignments**

#### **Active class discussion:**

- How the topics read relate to their own identity and STEM experience.
- Keep some flexibility as topics might be triggering and students might not want to speak up. Often when this happened, they sent their written participation directly to the instructor.

#### **Unit reflections:**

• 1 consolidated take-away from each unit's reading

#### **Unit debates:**

 Designed after the Oxford student union debate with the liberty to change side once the debate was completed. In case of transition of side, students were requested to share why they chose to do so. Interpretation of existing DEI measures (including art/movies)

#### Final full report:

 Students wrote individual report on intervention plans that can be utilized to improve equity in ECU chemistry/STEM. They had to utilize their reading to justify their proposed intervention.



# 

# Thank you!!!

Michelle Anne Reyes (she/her), Abrianna Macklin (they/she), Bridget Aidoo (she/her)

#### **Under revision**



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#### Let's end with an activity.

This is a graphic published by an ACS publication to promote inclusivity in the academy.

#### What are we seeing here?

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#### VIRGINIA TECH'S LGBTQ+ **ORGS 2011**

- 3 Operating Student Organizations
  - Hokie Pride
  - QGPA
  - Interloper



#### VIRGINIA TECH'S LGBTQ+ ORGS 2022

- 9 Student Organizations
  - Hokie Pride
  - QGPA
  - Interloper
  - TransSpace
  - QTPOC
  - Q\*mmunity Support Group
  - oSTEM
  - Ex Lapide
  - AcrossBorders@VT

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#### VIRGINIA TECH'S LGBTQ+ CAUCUS

- Formed in 1992 as an affiliate of the Women's Network
- Open membership

Committed to advancing equality for lesbian, gay, bisexual, and transgender people and their families. The Caucus seeks to improve the lives of LGBTQ+ individuals both at the University and in the New River Valley through educational programming, social activities, public service, and outreach. Together with our allies, we strive to share information and initiate progressive community change as we visibly work for social justice and human rights.

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- No protections for folk based on gender identity or gender expression
- No LGBTQ+ Resource Center
- No Gender-Inclusive Restrooms
- No Domestic Partner Benefits
- Student Names cannot be adjusted from that on legal documents
- Nationally No marriage equality, minimal protections for housing and employment

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# **Audience Survey Question**

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT

Do you know if your organization's non-discrimination policy protects for sexual orientation, gender identity or gender expression?

- The policy includes all three sexual orientation, gender identity, and gender expression.
- The policy includes two of the three, e.g., sexual orientation and gender identity
- The policy includes one of the three, e.g., sexual orientation
- I don't know my organization's non-discrimination policy

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<sup>\*</sup> If your answer differs greatly from the choices above **tell us in the chat!** 

# VIRGINIA TECH'S EQUALITY POLICY

**POLICY 1025** 

Virginia Tech does not discriminate against employees, students, or applicants on the basis of age, color, disability, sex (including pregnancy), gender, gender identity, gender expression, genetic information, national origin, political affiliation, race, religion, sexual orientation, or military status, or otherwise discriminate against employees or applicants who inquire about, discuss, or disclose their compensation or the compensation of other employees or applicants, or on any other basis protected by law.

https://policies.vt.edu/assets/1025.pdf

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https://www.hrc.org/resources/corporate-equality-index



https://www.campusprideindex.org/

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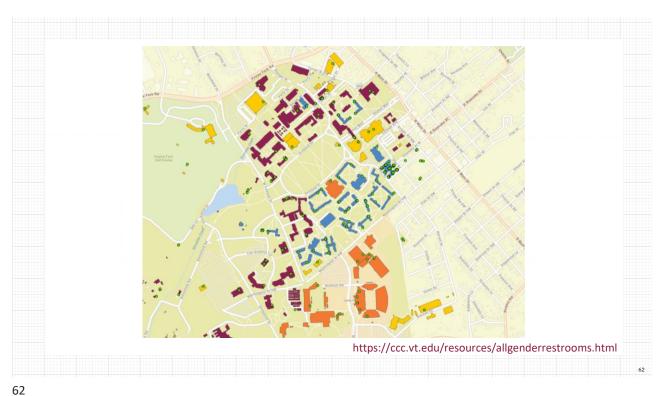
# **Audience Survey Question**

ANSWER THE QUESTION ON THE INTERACTIVE SCREEN IN ONE MOMENT

Thinking about where your organization (University, Place of Work) where is the nearest gender-inclusive restroom?

- · In the same building
- In a nearby building nearby within my organization
- In a nearby building in another organization
- I don't know where the closest gender-inclusive restroom is

<sup>\*</sup> If your answer differs greatly from the choices above **tell us in the chat!** 





#### VIRGINIA TECH: A Picture of a University in 2022

- Policy 1025 sexual orientation, gender identity, and gender expression included
- LGBTQ+ Resource Center
- Gender-inclusive restrooms required in new construction and retrofitted into central buildings
- Student names can be adjusted in university databases
- Students can report pronouns in university databases
- Lavender House established -LGBTQ+ living-learning community



# Get in touch with the Office of Diversity, Equity, Inclusion & Respect

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