Pride, power & privilege: creating space for 2SLGBTQ+ in STEM

Dr Ben Britton (He/him), CEng, CSci, FIMMM
t: @bmatb, e: ben.britton@ubc.ca

Associate Professor, UBC
Visiting Reader, Imperial College London
Trustee @PrideInStem
Menti survey results

What is your sexual orientation?

- heterosexual
- homosexual
- bisexual
- queer
- cis
- man
- bi
- straight
- pan
- cis male
- gay
- mostly heterosexual
Gender Identity

cis woman

cis man

queer

male

female

cis female

cis male
Wider personal identity

- woman in engineering
- introvert
- privileged
- neurodivergent
- white passing
- middle-class
- mentally ill
- unmarried
- engineer
- 1st gen college student
- 2nd generation american
- gender non-conforming
- asian
- married
- white
- disabled
- 3rd generation american
- single parent family
- role model
- first generation college
- entrepreneur
- first-gen uni student
- scientist
- mother
- 1st gen immigrant
- interfaith marriage
What career stage are you at?

- Undergraduate: 8
- Postgraduate: 8
- Research-focused Staff: 2
- Industry: 3
- Other: 1
• As a recent settler, I take a moment to recognise the land on which I talk, and how this influences our discussions.

• I share from the Musqueam, Squamish and Tseleil-Waututh territories – and in this story, we can recognise that this is both unceded Coast Salish Territory and the city of Vancouver.

https://indigenous.ubc.ca/indigenous-engagement/musqueam-and-ubc/
A sense of place...
A sense of place...

https://native-land.ca/
A sense of place...
A sense of place & the feeling of inclusion

• Our own lived experiences are important, and so are the histories of power and privilege, especially as we consider 2SLGBTQIA+ struggles to gain recognition, dignity, & equity

• These build upon the histories of our cultures, and how the Colonial-settler western-Europeans created, and sustained, so much damage across our societies
The letters – 2SLGBTQIA+

2s = Two-spirit – a (relatively) modern term to link together first nations ideas that overlap with the LGBT+ (important re: indigeneity)

L = Lesbian
G = Gay
B = Bisexual
T = trans, (as different to cis)
Q = queer

I = Intersex
A = Asexual
P = Pansexual
NB = Non-binary (enby)
GNC = Gender nonconforming

Genderfluid, gender queer ...
M./F.A.A.B = Male/female assigned at birth
+ = more, considering the overlap of gender identity and sexual orientation

For those familiar to the SOGI (sexual orientation/gender identity) space, these letters can be familiar, but individual people will have ideas each word...
... based upon their lived experience
for allies, these letters can be intimidating (but please do learn about them!)
Context: Stonewall Riots

• LGBT (Lesbian, Gay, Bisexual, Trans) uprising in response to a police raid
  • June 28, 1969 in NYC (the Stonewall Inn)

• Gay Americans faced an anti-gay legal system
  • Limited access to education, healthcare, jobs and more
  • We had/continue to have similar issues in the Canada, the UK, and beyond

• Stonewall Riots were led by Black Trans Women

© Ira L. Black / Corbis via Getty Images
Black trans people are disrespected in life and barely acknowledged in death – our lives matter too

There is no revolution if it does not centralise the lives, ideas, and the spirits of all black folk

Melz Owusu @MelzDot
Tuesday 2 June 2020 13:20 | 53 comments

© Ira L. Black / Corbis via Getty Images

IG:@honeydijon
https://www.youtube.com/watch?v=Ej82vOV1iIA
Privilege
What does “privilege” mean to you?

Menti.com – 9532 2555
In STEM/Academia, what does "privilege" mean to you?

- Being given the benefit of the doubt, almost all of the time
- Reduced barriers to success, less stereotypes associated with you.
- The assumption that I don't have to worry about being questioned about why / how I'm doing something.
- Undeserved advantages
- Have access to spaces restricted to others
- the ability to not carry as much baggage into my space and have freedom to think/work/learn etc without extra mental load
- Getting to represent yourself, rather than always representing the minority group to which you belong
- Lack of discrimination about who you are
- easier access to success
- Feeling like you belong somewhere without having to change who you are
- To have opportunities available to you without restrictions
Privilege isn’t the presence of perks and benefits. It’s the absence of obstacles and barriers. That’s a lot harder to notice. If you have a hard time recognizing your privileges, focus on what you don’t have to go through. Let that fuel your empathy and action.
Identity & Privilege

• To understand privilege we explore identity...
  • Often via characteristics/classes
  • (foolishly) binary or simple categories’
  • often unfounded in reality
  • Our understanding/identity/culture evolves

• Many of these are curated to sustain control
  • i.e. ‘enable’ sorting
  • Allocation of resource
  • Continue the status quo... (the census is political!)

In EDI spaces -
Recognition of diversity often via (uncertain) proxies of visible status, with respect to the dominant group

Shifts the conversations to give power to the ‘haves’
Privilege and intersectionality

• People are complex & have multiple aspects to their identities

• Reductionist approaches help people count

• Intersectionality coined by Prof Kimberlé Crenshaw, Columbia Law School in 1989 (!)

• Reflects intersecting social identities empower & sustain oppression

For more reading:
https://en.wikipedia.org/wiki/Intersectionality
Privilege and opportunity

- Are the privileged better? (ha, no)

- People who ‘fit’ into the privileged category (e.g. white men) may be good enough...

  ... BUT why are people not able to participate fairly?
What is my Privilege?

• I am...
  • White
  • Male
  • Cisgender
  • Private school educated
  • Born & working the global north
  • Academic full time staff
  • Able
  • British / well spoken
  • Still on good terms with family

• My ‘otherness’
  • Queer/gay
  • Neurodivergent
  • (recent) Settler

Even this dissection of an individual favours the ‘majority’ aspects...

Human beings are a tapestry of identity, and STEM is hostile to hints of difference
What barriers and obstacles exist?

• Individual vs systems based
  • Inherited within a context
    • historical perspective → colonisation, historical religion, geopolitics, changing attitudes)
    • Factors outside ‘our control’ → how do we create accommodations?

• Locked in → culture & systems
  • How people behave vs how people ‘should behave’
  • How professional are you?
EDI – a dynamic journey, for everyone

- To support EDI – how do we build trust, understand priorities, and what’s our end goal?
- Care with categorisation
  - gender → erasure of non-binary?
  - BAME → erasure of Black issues?
  - BIPOC → erasure of nuance / clustering of ‘other’?
  - LGBT+ → erasure of B, (IAQ)+
- What about the intersection?
- Recognise that the journey is dynamic and we are still learning

https://twitter.com/carbonatefan/status/1284096753063661569

https://arxiv.org/abs/1907.04893
Meritocracy – ‘stick with the science’?

**UK engineering medals and prizes**
- White winners: 87%
- Non-Black POC winners: 13%
- Black winners: 8%

**UK science medals and prizes**
- White winners: 97%
- Non-Black POC winners: 3%
- Black winners: 1%

Analysis by @jesswade

Limited data for LGBTQ+, TMS analysis not yet performed...
(note... based upon static, ‘visible’ minority status)
Read the room

• In one room my “minority status” has an impact

• In the next, I’m just another white guy
Privilege – is it static?

• If you are in difference spaces, does your (relative) privilege change?

in an 2SLGBTQ+ space, as a gay-white-man I am often in the majority...

... how does that change how I should consider my actions, my behaviour, and who I amplify/spend time with?
Check yourself...

• Take a few moments to think about your journey and what barriers you have and have not had to overcome.

• How do you find/know about these barriers? #AreYouReallyListening #WhoAreYouListeningTo

• How does this change what you take for granted?

• How does this change your access to opportunity?

• How does this impact your ‘bad’ days (and set backs)?
Power
What does “power” mean to you?

Menti.com – 9532 2555
# In the context of this talk, what does "power" mean to you?

<table>
<thead>
<tr>
<th>Power is the ability to leverage one's identity to act in their favor, either knowingly or unknowingly</th>
<th>Ability to make decisions and influence outcomes for yourselves and others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to impose on others</td>
<td>Ability to influence others</td>
</tr>
<tr>
<td>the ability make change, be heard, influence, and get your way with little struggle</td>
<td>Ability to erect and dismantle barriers for success for people who work for you.</td>
</tr>
<tr>
<td>You get your way more often than not.</td>
<td>Who is in charge or in control</td>
</tr>
<tr>
<td>A presumption of control or influence.</td>
<td></td>
</tr>
</tbody>
</table>
We are the system
We create power, we share power, we bow to power, we are oppressed by power

(we often don’t have a choice in this...)
Drivers to make change

• Systems based problems
  • International,
  • N America, US/Can/UK-wide,
  • HE-sector,
  • your University,
  • your research group,
  • your teaching group,
  • your friendship group,
  • your family...

• Solutions are created by people
  • Context of power
  • We won’t fix everything at once
  • We will make mistakes
  • People will have different priorities
  • People have different access to resource & influence
  • BUT the status quo is shit...
Power

• What is power?
  • The ability to effect change
  • Persuading others
  • Autonomy – being free to do what you want*

• In academia, how do people get it?
  • Credentials/qualifications
  • Being hired, invited, and more...

*care with the minority tax...
Academia is not a meritocracy

Alon Zivony

Evaluating PhD students by their publications may have the outward appearance of a meritocracy, but as long as students from minority groups do not enjoy the same privileges as their peers, the playing field is anything but level, argues Alon Zivony.
"I won't compromise quality for diversity"

You won't. Increasing diversity enhances an event.

If you believe the opposite, maybe the following is true:

Dr L @drperezdiaz · 19h
Going through public responses to a survey about some organisation's events & EDI... "The only criterion should be the quality of the event and should not be influenced by ideas of diversity which in my view are futile and counterproductive"
#fml
Gender and sexual minorities in astronomy and planetary science face increased risks of harassment and assault

Christina R. Richey\textsuperscript{a}, Katharine M.N. Lee\textsuperscript{b}, Erica Rodgers\textsuperscript{c}, and Kathryn B.H. Clancy\textsuperscript{b,d}

\textsuperscript{a}Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, USA
\textsuperscript{b}Department of Anthropology, University of Illinois at Urbana-Champaign, Urbana, IL, USA
\textsuperscript{c}Space Science Institute, Boulder, CO, USA
\textsuperscript{d}Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL, USA

• “The majority of scientists holding positions of high power, influence, or rank in astronomy and planetary sciences do not hold minority identities.”

• There is a significant difference between the frequency of hearing negative remarks from LGBTQPN women vs cis-straight-women, including homophobia, transphobia, and about religion or lack thereof.

• 62\% of cisgender male respondents had heard sexist comments from their peers in the work environments. 78\% of cisgender straight women. 81\% for LGBTQPN women.
Representation

Meet Prof Valerie Stone (@valstonemd), phenomenal physician and leader @harvardmed & @BinghamWomens. Stone has studied why HIV/AIDS is so prevalent in communities of colour; healthcare inequities now exposed w/ COVID19. New @wikipedia page: en.wikipedia.org/wiki/Valerie_E... womeninSTEM

Meet Prof Jon Freeman, psychologist + neuroscientist @nyuniversity. Freeman studies how stereotypes impact visual processing using computational modelling + neuroimaging. He won the NOGLSTP LGBT scientist of the year. New @Wikipedia page: en.wikipedia.org/wiki/Jon_Freem... #LGBTHM19
Speaking truth to power?

• Does everyone have free reign to do this?

• When do you have the power to do this?

e.g. I have tenure, I’m white, I’m a guy, I have been taught how the establishment works (private school), I have been taught to argue (Oxford)...

... BUT care to adhere to “nothing about us, without us”

amplify where possible, listen lots, these conversations are happening
Methods to address power

• Power is cultural, and sustained by people via systems & (learned) societies

• We can create tools to help...
  • Unionise (formal and informal) → 2SLGBTQ+ staff/student networks
  • Policy → but creating policy is not an ACTION
  • Anti harassment/anti discrimination enforcement & culture change
  • Transparency in communication & decision making
  • Audit distribution of power (representation!!! → a proxy assessment)
Questioning power & 2SLGBTQ+

• Most conversations assume cis het norms

• Many activities/meetings/systems/approaches do not cater to “OTHER”

• If you are participating, considering whether you can force accommodations, e.g. an #AllyPledge
  • For 2SLGBTQ+ issues, AND for other advantage/disadvantage
Imposter syndrome

• Do I belong here?

• Society (broadly) has rejected 2SLGBTQ+ people
  • It is getting ~better

• BUT there are lots of bigots amongst us, AND lots of passive actions that sustain inequality

• In academia, this continual “are you good enough” question and ALL THE GATES creates & sustains imposter syndrome
Space
Do 2SLGBTQ+ people have space in STEM?
In 2SLGBTQ+ in STEM, what does "pride" mean to you?

Acknowledgement of one's identity - either verbally or non-verbally.

A sense of accomplishment in mutual success rather than success built on inequality or at the expense of others.

Being honest and open about my identity.
LGBT+ STEM Experience

• Significant evidence of widespread workplace experience inequalities for LGBT employees compared to non-LGBT colleagues [1]
  • Uncorrelated with age, tenure, and demographic diversity

• Systematic inequalities for LGBTQ professionals in STEM [2]
Cech and Waidzunas (2021) DOI: 10.1126/sciadv.abe0933

The stick to the science crowd can stick it right now.
Figure 1: Percentage of respondent reporting their perceptions with regards to their comfort within their organisations environment by gender (excluding “comfortable” and “very comfortable”). Source Exploring the Workplace for LGBT+ Physical Scientists (2019)- Institute of Physics, Royal Astronomical Society and Royal Society of Chemistry

Figure 2: Percentage of respondents who have experienced exclusionary, intimidating, offensive or harassing behaviour with respect to their sexual or gender identity, as broken down by trans status and by gender. Source: Exploring the Workplace for LGBT+ Physical Scientists (2019)- Institute of Physics, Royal Astronomical Society and Royal Society of Chemistry
Discrimination drives LGBT+ scientists to think about quitting

Despite progress, many physical scientists from sexual and gender minorities experience exclusion or harassment at work, finds UK survey.

Elizabeth Gibney

Figure 2: Percentage of respondents who have experienced exclusionary, intimidating, offensive or harassing behaviour with respect to their sexual or gender identity, as broken down by trans status and by gender. Source: Exploring the Workplace for LGBT+ Physical Scientists (2019)- Institute of Physics, Royal Astronomical Society and Royal Society of Chemistry
Nature is proud to support Pride in STEM

This year’s International Day of LGBTQ+ People in Science, Technology, Engineering and Maths has our fullest backing.

The charity Pride in STEM co-founded the International Day of LGBTQ+ People in Science, Technology, Engineering and Maths. Credit: Christopher Carpinelli/Pride in STEM
Creating space & rebalancing power...
What does “pride” mean to you?

Menti.com – 9532 2555
@PrideinSTEM

- UK Charitable Trust
  - Founded in 2016, and led by Dr Alfredo Carpineti

- ‘Queer up science space’ & ‘Science up queer spaces’

- Outthinkers, #LGBTSTEMDay, policy work, outreach +more
Improving Culture
Creating space

Hi 2SLGBTQ+ in STEM folks - how would you like people to "make space" for you in STEM?

What accommodations would you appreciate?
What opportunities would you like?
What barriers would you like torn down?

It's for a new talk I am writing - I will attribute (& may follow up)

7:20 AM · Feb 10, 2021 · Twitter for Android
ProfPhoebe @ProfPhoebe · Feb 10
Replying to @BMatB and @TheLabAndField
I find it very hard to network at mostly-straight “beer hours” and I wish we would not celebrate those as the best way to talk about science, network, etc. “beer hour” is particularly comfortable for some people and not for others.

Dr. Jay Brett (they/them) @JayBrett9 · Feb 10
Replying to @BMatB
I want the things that cost $$ to be done: update e-systems for more genders and used names (vs legal), have inclusive bathrooms, cover mental health and gender-affirmative care, include benefits for an adult of your choosing (not just a spouse)

Dr Alex Bond 🇨🇦 @TheLabAndField · Feb 10
Replying to @BMatB
a financially-supported staff network
professional development funding for things like Stonewall’s LGBT+
Leadership school
checks/balances on risk assessments incl travel
**object permanence** - we shouldn’t need to be in the room to remind folks we exist

Queer Engineer @QueerEngineers · Feb 10
Replying to @BMatB
Moving beyond “theoretical” inclusivity.

Holding mandatory workshops to educate folks (kindly) on how to respect LGBTQIA+ people (pronouns, inclusivity, intervention tactics).

Setting a precedent that discrimination will not be tolerated.

Not excusing bad behavior.

Becky Nisbet 🇬🇧 @becky_e_nisbet · Feb 10
Replying to @BMatB
- Anti-harassment policies that specifically cover homophobic/transphobic incidents.
- Stop with Mr/Mrs choices on forms
- Pronoun in email signatures; shows people are allies
- Stop being so cis/heteronormative
- Funding for those who b/c of LGBT stuff don’t have family support

Chris Dao (He/His/Him) @ChrisVDao · Feb 10
Replying to @BMatB
Strict standards on unacceptable behavior, for example, classify: attempting to out someone or gossiping about someone’s potential sexual orientation/gender as “Sexual Harassment.”
Treat recruitment at LGBT+ Professional Societies as DEI Initiatives, equally as Societies for Race

Prof Ben Britton @BMatB · Feb 10
Replying to @BMatB
For some examples:
Lanyards, pronouns in emails, pronoun ribbons for conferences, consideration of travel issues, not making assumptions re partner status, anti-harassment policies that engage with 2SLGBTQ+ issues are on my list...

Prof Ben Britton @BMatB · Feb 10
Broader items will include reading and actively engaging in understanding and addressing intersectionality

Dr Andrea Grover @AndreaKGrover · Feb 10
Replying to @BMatB
In many US institutions, diversity (& related aspirational goals) is evaluated only by # of non-white US citizens on faculty. It’s such a narrow view.

I want to see queer & disabled people being counted too. The exclusively racial focus can devalue other forms of diversity.
Diversity, equality & inclusion

• Diversity without inclusion is not enough

• Inclusion without equality is not enough

• Stamp collecting can be fun, if you are collecting stamps

• Varies by field, work culture, social culture, intersectional approaches...

• Engage with Athena SWAN + Stonewall Diversity Champion

Figure 3. Across major STEM fields of expertise, the relationship between proportion of employed scientists and engineers who are women and participants' median (±95% confidence interval) rating of openness to colleagues. A regression across all points is nonsignificant with $p = .31$ (solid line). However, a regression excluding data from psychology, in which professional standards may prevent openness independent of workplace climate, is significant with $p = 0.02$ (dashed line).
But what should I do...

1. Become a co-conspirator
2. Safeguard LGBTQ+ people in all contexts
3. Provide a flexible way for people to escape a hostile lab / workspace
4. Intervene for the LGBTQ+ person dealing with workplace discrimination / microaggressions
5. Support your LGBTQ+ staff when transphobes/homophobes aim to dox them/get them fired.
6. Provide new opportunities to offset those inaccessible for out LGBTQ people (e.g., campuses in Dubai).
7. Platform LGBTQ+ people in research conferences through invited / plenary talks
8. Acknowledge and reward (emotional) work of LGBTQ+ people
9. Consult your LGBTQ+ students
10. Appoint a department liaison (this should not be additional work thrown onto your resident LGBTQ+ faculty member(s), and not a student too...)
11. Track LGBTQ+ identities when you track other identities
12. Hire LGBTQ+ people in research
13. Allow diverse life experiences for researchers / postgrads
14. Confront problematic colleagues that do not use correct pronouns / gossip about LGBTQ+ people's personal lives
15. Recruit LGBTQ+ undergrads/postgrads/faculty
16. Make work on EDI a hiring criteria
17. Provide bias training for search committees
18. Care with the “meritocracy” – e.g. evaluate teaching & citation metrics with anti-LGBT sentiment as a context.
19. Acknowledge people discriminate against LGBTQ+ people citing other reasons for their discrimination
20. Use gender neutral language
21. Pronouns in emails and conference badges
22. Establish how your students want to be identified / their pronouns
23. Promote a safe LGBTQ+ experience in the workplace
24. Create safe spaces for LGBTQ people at work
25. Gender Neutral Bathrooms
26. Provide separate housing in conferences for LGBTQ+ people
27. Consider travel issues for LGBTQ+ people, and add LGBTQ+ issues to the risk assessment for fieldwork & trips
28. All editors should force their publishers to allow name changes for transgendered people
29. Join an Out List as an ally
30. Promote inclusion everyday

I don’t know what to do → which should I do first? you don’t have to do ALL of these at once... do some, and track progress
4. Areas for increased action

Only when all people feel comfortable to be themselves in the workplace, without any fear of discrimination, will global science truly be able to thrive. Even more importantly, only then will we stop wasting so much human capital.

David Smith, RSC News, July 2018

What to do?

- See LGBT in Physical Sciences Report:


4 more pages of suggestions....
As an LGBTQ+ person, I can...

- You have no obligations
- Be yourself

- If you can...
  - Be out & be a role model/exemplar
  - Share your story
  - Advocate & get involved

- You are not the ‘only gay in the village’
  - Support each other
  - Listen to others

- Consider and support groups (intersectionality)
As an LGBTQ+ person, I can...

• You have no obligations
• Be yourself

• If you can...
  • Be out & be a role model/exemplar
  • Share your story
  • Advocate & get involved

• You are not the ‘only gay in the village’
  • Support each other
  • Listen to others

• Consider and support groups (intersectionality)
Need more co-conspirators..
- More allies = good
- Need more people to speak truth to power, exercise social capital

Break down current narratives & assumptions:
- Colonialism
- Heteronormative
- Monogamous
- Cis-gendered

The tapestry of a human being is far more interesting...
... beautiful people can create beautiful things.
I can ask my organisation to...

- LGBT+ risk assessments
- Improve policies, specifically with respect to LGBT+
- Senior staff to lead by example
- Create professional networks
- Gender neutral communications
- Trans awareness training
- Stop assuming everyone is straight
- Recruit from LGBT+ community & support LGBTQ+ people
- Diversity training as standard
- Contribute & support local LGBTQ+ community
- Consider within framework of intersectionality
Further resources:

- https://www.iom3.org/iom3-pride
- www.prideinstem.org (see @prideinstem)
- www.houseofstem.org
- http://www.iop.org/policy/diversity/
- IOP LGBT+ Physical Sciences Network
- www.stonewall.org.uk/diversity-champions-programme
- www.tigerinstemm.org
Privilege

• “many STEM disciplines remain dominated by, and unconsciously biased towards, straight, white, non-disabled, middle-class, cis-gendered men” [1]

• You can’t change your past, but can acknowledge it, and improve the lives of others

• Recognise, listen and support individuals from underrepresented groups, consider power dynamics too

• STEM is not a zero-sum game, create space, rebalance power, recognise privilege

Material goals towards equity along the STEM & LGBTQIA+ spectra

Authors

Ben Britton, Department of Materials Engineering, University of British Columbia
Jennifer Carter, Department of Materials Science and Engineering, Case Western Reserve University
Matthew Korey, Manufacturing Demonstration Facility, Oak Ridge National Laboratory
Liz Roccoforte, Lesbian Gay Bisexual Transgender Center, Case Western Reserve University

Bios

Ben Britton (he/him) is an associate professor in the Department of Materials Engineering at the University of British Columbia and a visiting reader at Imperial College London. He is a trustee of Pride in STEM and the winner of the 2021 TMS Frank Crossley Diversity Award.

Jennifer L.W. Carter (she/her) is an associate professor in the Department of Materials Science and Engineering at Case Western Reserve University (CWRU). She is a past chair and current member of the TMS Diversity, Equity, & Inclusion Committee.

Matthew Korey (he/him) is a postdoctoral researcher at the Manufacturing Demonstration Facility at Oak Ridge National Laboratory. He is the current chair of the TMS PRIDE working group and an active member of the TMS Diversity, Equity, & Inclusion Committee.

Liz Roccoforte (she/her) is the inaugural Director of the LGBT Center at Case Western Reserve University. She has over 10 years of experience managing policy and practice changes on campus and facilitating Safe Zone training to Allies in the Faculty and Staff on campus.
Get Ready for DMMM4:
Providing novel, actionable, measurable approaches and strategies that encompass a broad spectrum of human experiences.

Learning Pillars:
• Inspiring
• Learning
• Doing
• Sharing

For Program Outline and Updates:
www.tms.org/TMS2022/DMMM4
Questions and answers

Via the Q&A tool

ALSO feel free to follow up with ideas/comments/other stuff via ben.britton@ubc.ca