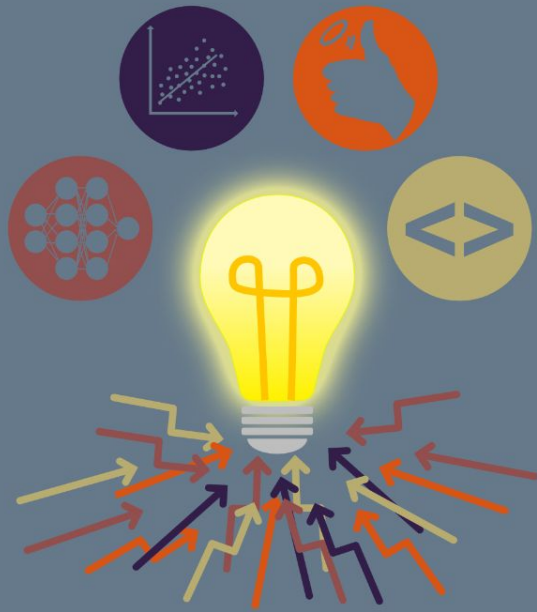


# Useful Models



---

## Closing Session

# Closing Session (Memorial Union Ballroom)



5 minute talks reflecting on the conference and the theme of “Useful Models”:

Emily Buhnerkempe (University of Illinois Laboratory High School)

Kelly Findley (University of Illinois, Urbana-Champaign)

Regina Lisinker (University of Minnesota, Twin Cities)

Roxy Peck's  
recommendation:

Find useful models.

Roxy Peck's  
recommendation:

Find useful **role** models.



# Closing the Closing Session

# Grateful to this Community

- Thank you for being so welcoming.
- Please consider sharing photos from the conference on the CAUSE Slack.



# A Big Thanks



## CAUSE + Penn State Department of Statistics

- Matt Beckman
- Andrew Ferguson
- Lydia Myers



## Iowa State Department of Statistics

- Laura Zeigler
- Graduate Student Shuttle Drivers:
  - Cat, Sarah, Payton
- Other ISU Faculty, Students, and Staff
  - Alan, Anna 1, Anna 2, Amy, Ben, Dan, Debarshi, Kathy, Ulrike, Wes

# A Big Thanks

Minitab  

 **ALEKS**<sup>®</sup> ASA  |  **macmillan**  
learning

 **jmp** STATISTICAL  
DISCOVERY  **WILEY**

**IOWA STATE  
UNIVERSITY**

 **PennState**  
Eberly College of Science

 **CAUSE**

# Share Session Materials

- Thank you to our session presenters!
- By July 25th, please consider sharing with us so we can post them on the USCOTS website: [burl.live/materials](http://burl.live/materials)



# Feedback + Ways to Get Involved



Feedback form in your inbox.

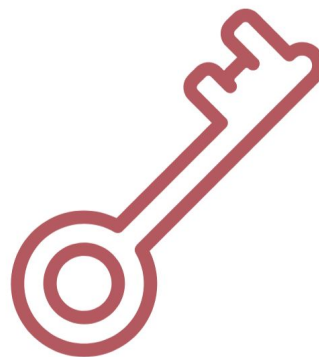
We are especially looking for theme and speaker ideas for 2027!

If you want to get more involved in CAUSE or the ASA, reach out

- [mdb268@psu.edu](mailto:mdb268@psu.edu)
- [k.mcconville@bucknell.edu](mailto:k.mcconville@bucknell.edu)
- [arossman@calpoly.edu](mailto:arossman@calpoly.edu)
- [pa5jq@virginia.edu](mailto:pa5jq@virginia.edu) (if you want to judge Speed session at JSM in Nashville)



Keep connecting on the CAUSE Slack Workspace.



Don't forget to turn in your dorm key in Martin Hall.

Safe travels everyone!

What's Next?

## In the Immediate Future: CAUSE Business Meeting

- 4:45 - 5:45 pm TODAY
- Gerdin 0330
- All are welcome!



# CAUSE RESEARCH READING GROUP



FOR ARTICLE



FOR ZOOM LINK

Next Meeting: Friday, July 25<sup>th</sup>

3pm ET, 2pm CT, 1pm MT, noon PT

Free, but you must register

Everyone is welcome!

(You don't have to have attended any previous sessions.)

Article: Wild, C. J., & Pfannkuch, M. (1999). Statistical thinking in empirical enquiry. International statistical review, 67(3), 223-248.

<https://doi.org/10.1111/j.1751-5823.1999.tb00442.x>

More Information: Megan Mocko (Megan.Mocko@warrington.ufl.edu)

Zachary del Rosario (zdelrosario@olin.edu)

Shu-Min Liao (sliao@amherst.edu)

# Virtual & Free Birds of Feather Sessions

Aug. 11-15

Registration and Information



[forms.gle/f4ZyLkNkoZYL8AgQ7](https://forms.gle/f4ZyLkNkoZYL8AgQ7)



# Electronic Conference on Teaching Statistics 2026 (eCOTS)

Jennifer Ward  
eCOTS Program Committee



# eCOTS 2026 Program Committee

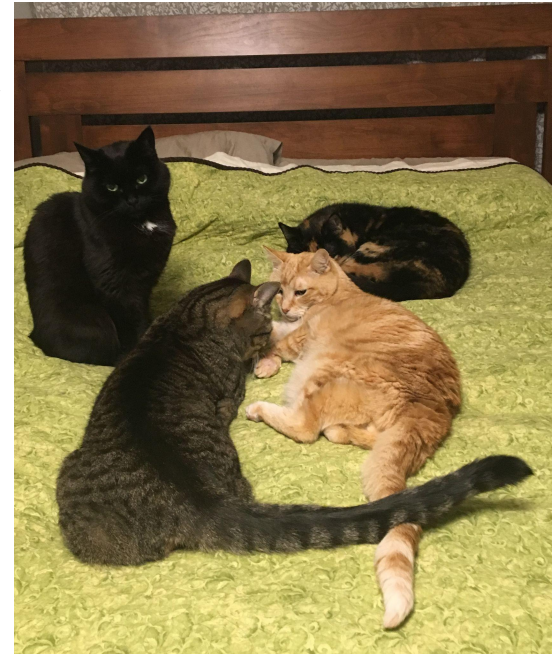
- Allison Theobald, Cal Poly, San Luis Obispo
- Beverly L. Wood, Embry-Riddle Aeronautical University
- Jennifer Ward, Clark College
- Jonathan Wells, Grinnell College
- Juan Gomez, Carmel High School, CA
- Kelly Spoon, San Diego Mesa College
- Maria Tackett, Duke University
- Matthew Beckman, Penn State University
- Nicholas Horton (chair), Amherst College
- Sara Stoudt, Bucknell University
- Tyler George, Cornell College
- Vimal Rao, University of Illinois



# eCOTS 2026 Poster Committee

Heather Cook (co-chair), University of Southern Indiana

Jacqueline Herman (co-chair), Northern Kentucky University



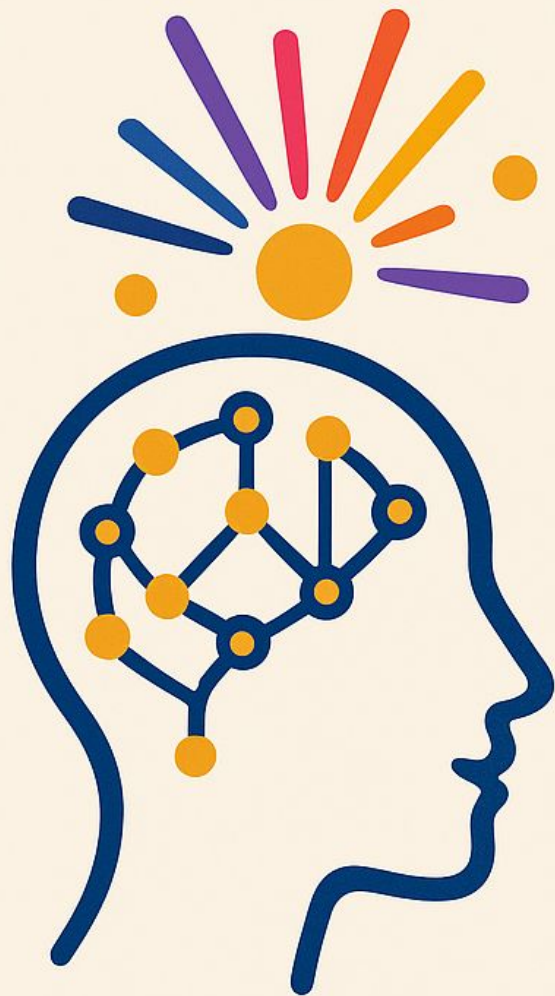
## eCOTS 2026 Dates

The 2026 Electronic Conference on Teaching Statistics will be held online from:

**June 15-18, 2026**

# eCOTS 2026 Theme

**Drumroll please.....**



# Sparking Joy and Discovery

In a World of AI

**eCOTS 2026**



# eCOTS 2026 Sparking Joy and Discovery In a World of AI

- In a world increasingly shaped by technological tools and artificial intelligence (AI), how can we **spark discovery and joy** in **ourselves** and **our students**?
- The theme invites us to explore the impact of AI on **instruction** and **assessment** for statistics and data science courses.
- Are there ways to **foster wonder, imagination, and critical thinking** (**with or without AI**) and to center **human values and interactions** in our teaching?
- We welcome approaches where AI is a **partner** in the human creative process as well as those that are **complementary** to these new tools.

# eCOTS 2026

<https://causeweb.org/cause/ecots/ecots26>

Stay tuned in the fall for call for...

proposals for breakouts, P+B, workshops + more!

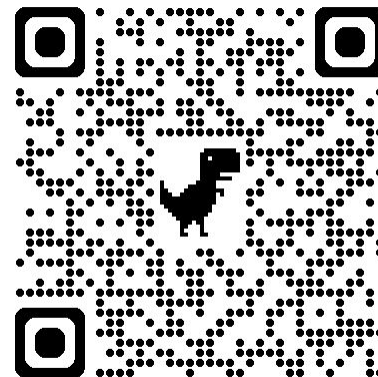
# International Conference on Teaching Statistics (ICOTS 12)

**12 - 17 July 2026**  
**Brisbane, Australia**

**Theme:      What? Who? When? How?**

**Questions?    Jo Hardin**  
**jo.hardin@pomona.edu**

conference website: <https://virtual.oxfordabstracts.com/e/icots12>



**Due date for Main Topic paper proposals:** 31 July 2025

Outcome by: 30 September 2025

**Due date for Contributed and other paper proposals**

**desiring refereeing:** 31 August 2025

Acceptance by: 30 September 2025

Acceptance is conditional on at least one author registering and presenting at the conference. A proposal not accepted for a Main Topic will be considered by the IPC for inclusion as a Contributed and Other paper.

An optional refereeing process is available for all papers accepted as above.

**Due date for Papers requesting refereeing:** 30 November 2025

Referee reports by: 31 January 2026

Papers must be no more than **six pages** (including all body text, tables, graphs, and appendices; a maximum of **two pages** of references are not counted in the six-page limit). Please use the ICOTS **Paper Template**, available in the Downloads tab.

**Additional due date for Contributed oral presentation abstracts:** 31 January 2026

Outcome by: 28 February 2026

This is for authors not wishing for refereeing of papers. These abstracts may be approved for papers (oral presentation) if program space is available. If not, they may be approved for poster presentation

**Due date for all final papers** (refereed and non-refereed): 30 April 2026

**Due date for Poster proposals:** 31 March 2026

Outcome by: 21 April 2026

**Due date for SIG/organisation meeting requests:** 28 February 2026

Outcome by: 31 March 2026

**Due date for pre-conference workshop proposals:** 31 October 2025

Outcome by: 30 November 2025


Time for the  
CAUSE Business Meeting!



# Messy, Imperfect, ... Just Right

**I** ILLINOIS |


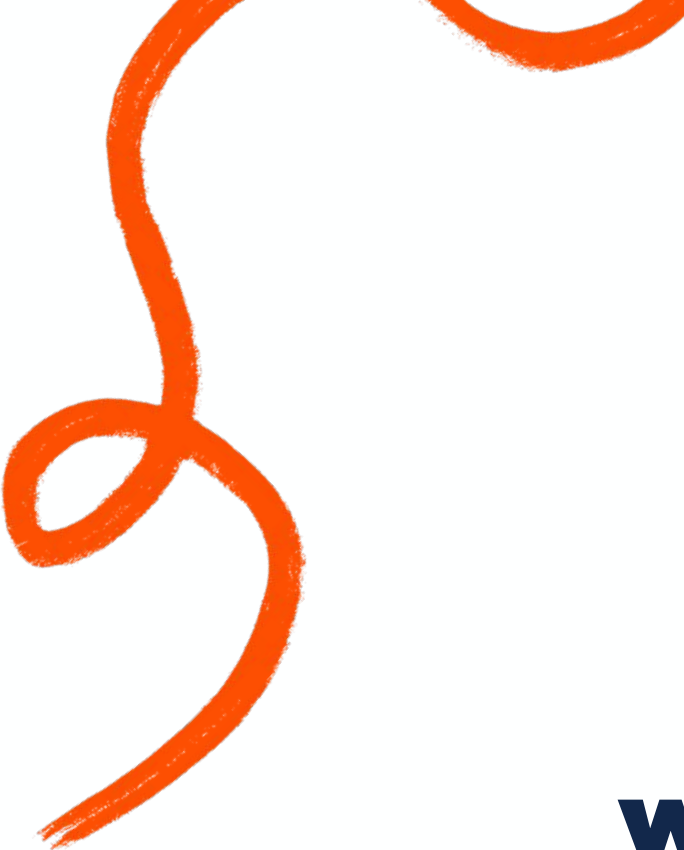
*Emily Buhnerkempe,  
American Statistical Association  
Section on Statistics and Data Science  
Education (SSDSE) High School  
Teacher Fellow  
[emilyeb@illinois.edu](mailto:emilyeb@illinois.edu)*



# Examples

- Dennis Pearl's box
- Kim Roth's blanket
- Nathan Kenny's Building Thinking Classrooms
- Prince Afriyie's first 400-person lecture focused on coding





**“Just because a  
model isn’t  
perfect, doesn’t  
mean it is not  
worth building the  
model.”**

*-Kelly Findley*





**Be messy, Be  
imperfect, BE BOLD!**

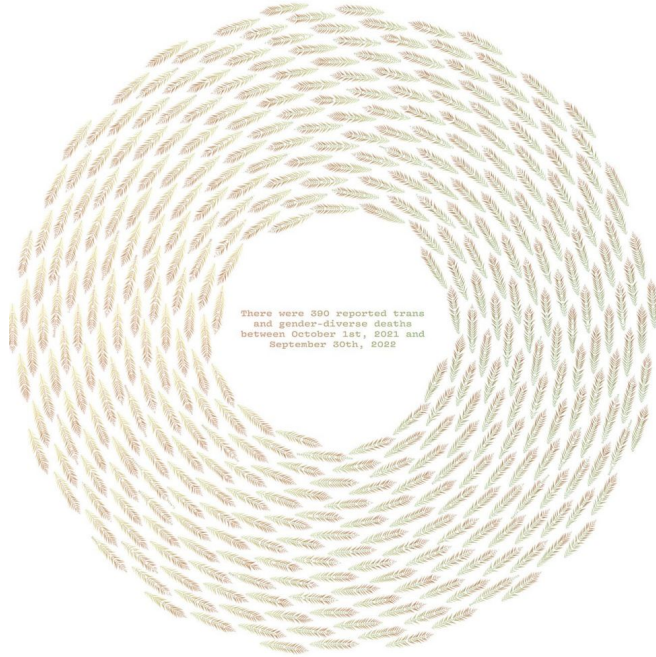


# A Useful Model for the Human role in statistics

Kelly Findley

# Kim Roth on Data Art

Data is embodied in human (and non-human) narratives and is shared to provoke a response



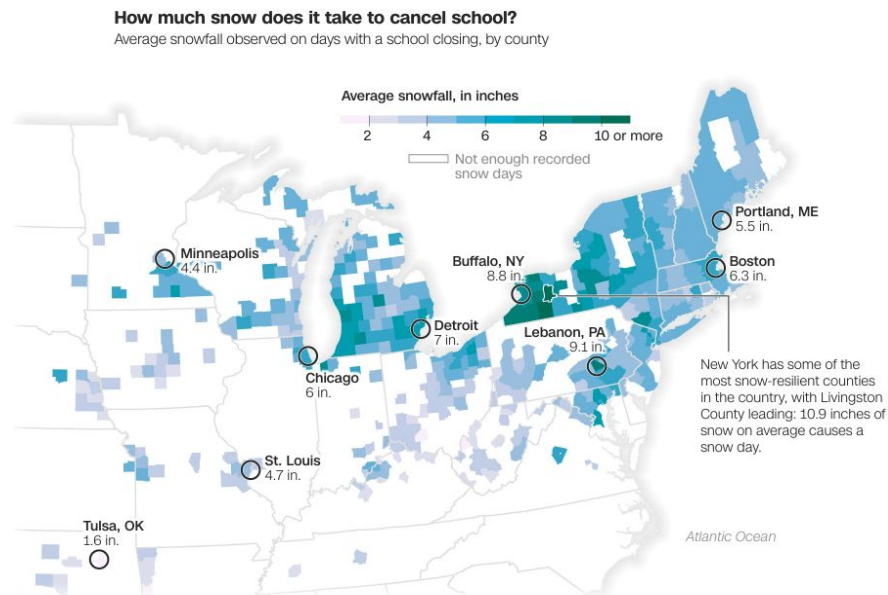
<https://datasciencebydesign.org/blog/transgender-day-of-remembrance>



Temperature Blanket by Kerri Crews

## Mia Petrie & Maddie Hunt on Students' Perception of Bias in Complex Data Visualizations

Students are skeptical of a graph that talks about race, but they implicitly trust the graph about snowfall

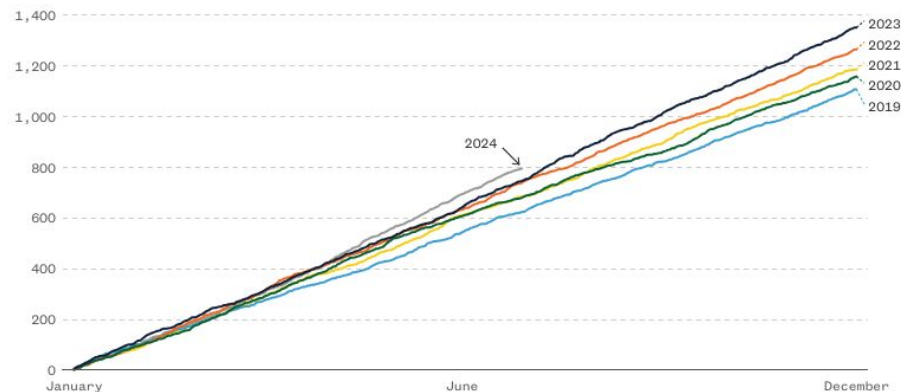


## Asja Alic & Nina Bailey on Critical Statistical Literacy Habits of Mind

How might we frame our interactions with data that consider the broader contexts and human experiences they exist within?

### Killed by police

The number of documented police killings has risen each of the previous four years.



**Notes:** Data shows incidents where a law enforcement officer, on or off-duty, applied lethal force on a civilian, resulting in the civilian being killed. Data is through July 28, 2024.

**Source:** [Mapping Police Violence](#)

Graphic: Matthew Danbury / NBC News



**Beth Chance's** keynote (via Zieffler et al.)

Creating modeling activities that engage students as **authentic agents** and **drivers** of the choices

**Sayali Phadke** on Facilitating Students' Reasoning when Coding

“Convince Me” tasks that position students to explain **why** a code will (or will not) successfully address what is asked

**Zarek Drozda** from Data Science 4 Everyone

“We don't want a country of AI sheeple...we want people who can **interrogate** the **value** of **the tool** and **the output**”



# My Takeaway

Modern Statistics = Less Probability + More Computational Tools + ...  
Human-ness?

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**Reflect:** Do our models for teaching adequately fit in the  
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# My Takeaway

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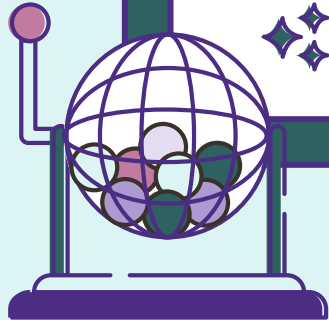
**Challenge:** Rather than viewing human bias as distinctly “bad” in statistics, how might we invite students to invoke their **identities**, their **curiosity**, their **ethics**, and their **embodied experiences** to conversations and decisions with data?



# USCOTS 2025

# Useful Models

Regina Lisinker

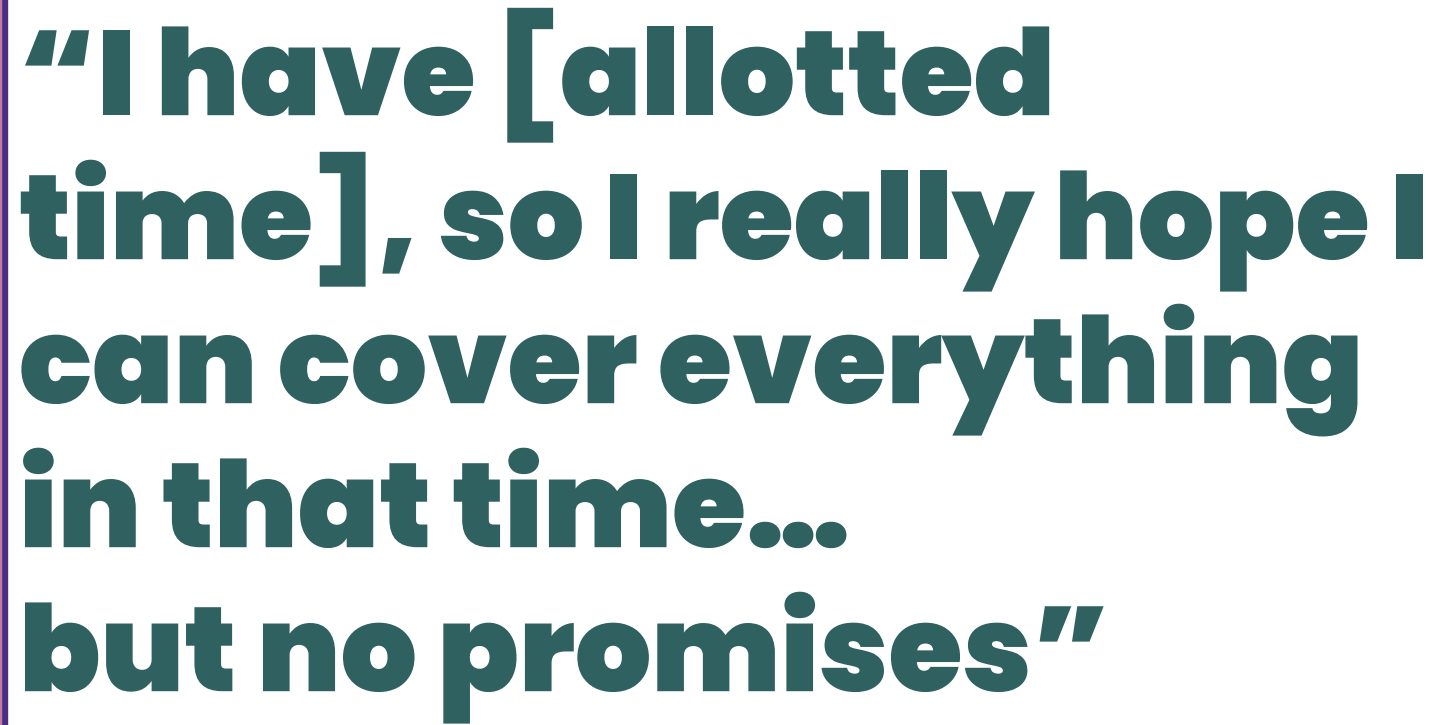




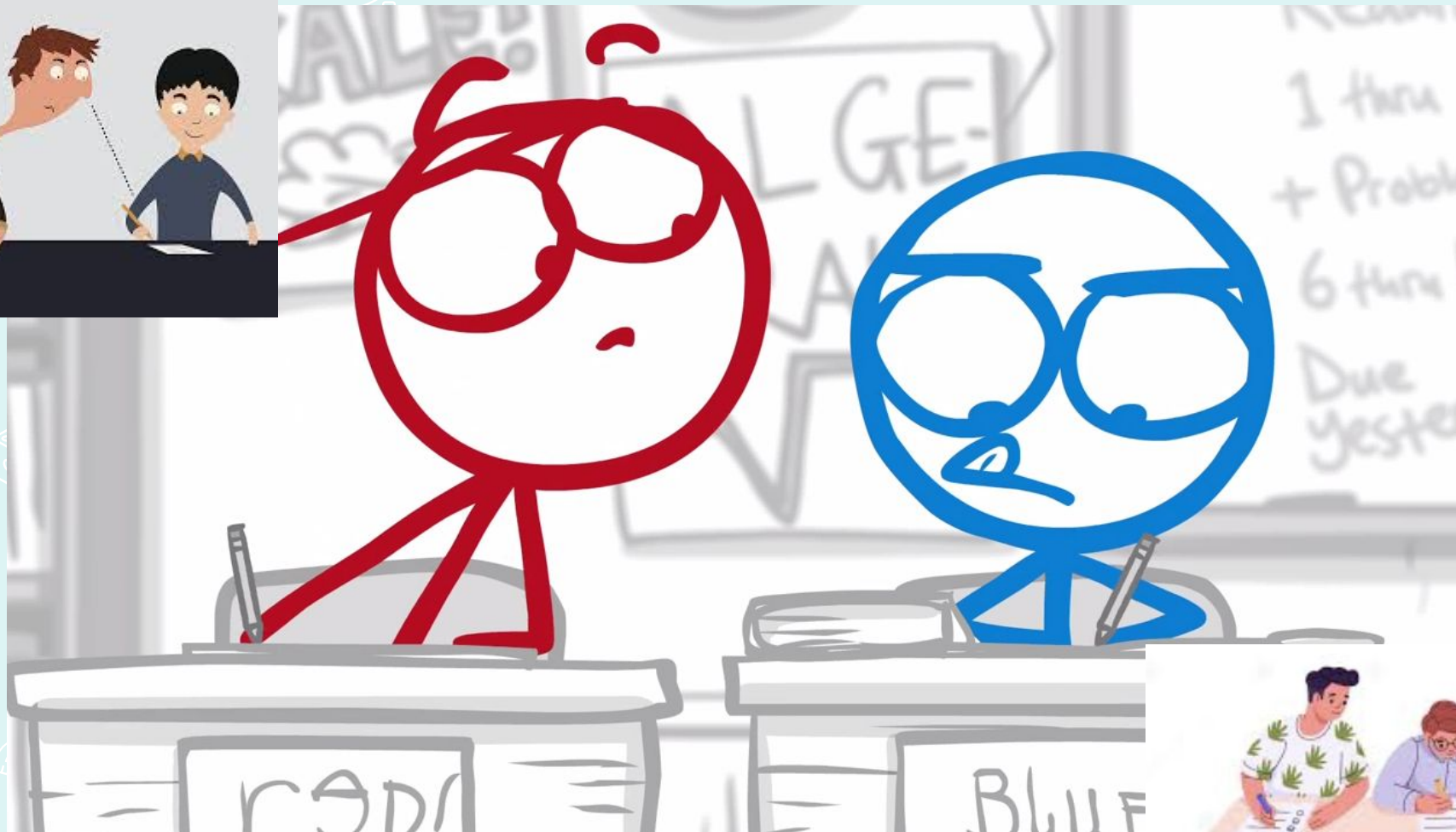
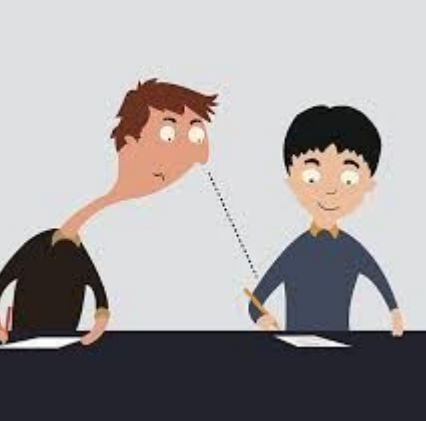
**“I have [allotted  
time]**



**“I have [allotted  
time], so I really hope I  
can cover everything  
in that time**

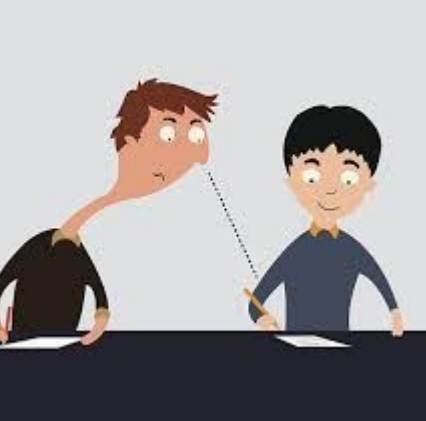


**“I have [allotted  
time], so I really hope I  
can cover everything  
in that time...  
but no promises”**















# **My Favorite Models**

# My Favorite Models

- Multiple solutions

# My Favorite Models

- Multiple solutions
- Building student intuition

# My Favorite Models

- Multiple solutions
- Building student intuition
- Failure

# My Favorite Models

- Multiple solutions
- Building student intuition
- Failure
- Lifelong learning



Memorial Union Great Hall

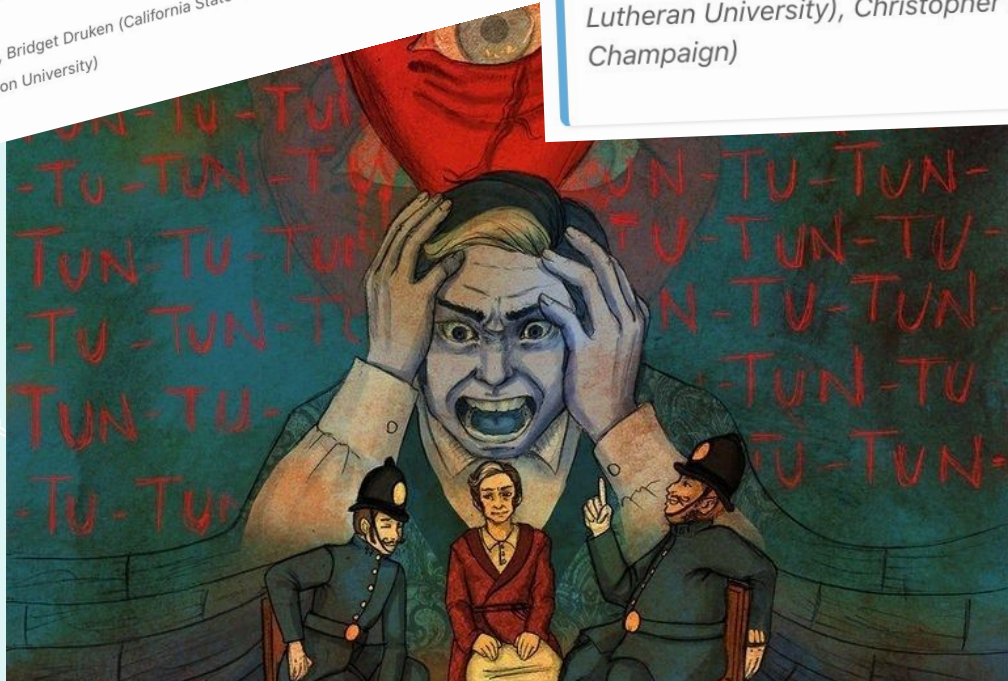
...in Positron (Thur, July 17, 1:00 – 4:15 pm)  
...Rundel (Duke University) and Hadley Wickham (Posit)  
...2127  
...UN-TU-TUN-



**W05: Empowering students through data: Teaching socially relevant state**  
**16, 8:30 am – 4:15 pm)**  
 Heather Barker (Elon University), Bridget Druken (California State University, Fullerton), Tim Erickson (Episte  
 Engineering), Larry Cantwell (Elon University)  
 Location: Gerdin 0119

Developing Data Agency: A Longitudinal Study of Statistics in  
Into the Discipline

*Kelly Findley (University of Illinois Urbana-Champaign), Nicola Justice (Lutheran University), Christopher Kinson (University of Illinois Urbana-Champaign)*





**Authentic Data Explorations: Immersive Statistical Investigations in Real-world Contexts**  
Maria Cruciani (Michigan State University)

Agency: A Longitudinal Study of Statistics in  
University of Illinois Urbana-Champaign), Nicola Justice (University of Illinois Urbana-Champaign), Christopher Kinson (University of Illinois Urbana-Champaign)

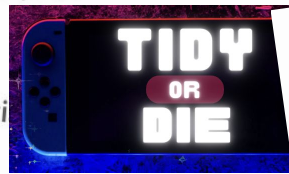


Navigating the sea of statistics and data science education research:  
 Perspectives of an intrepid researcher from "down under"  
 Anna Fergusson (University of Auckland | Waipapa Taumata Rau)

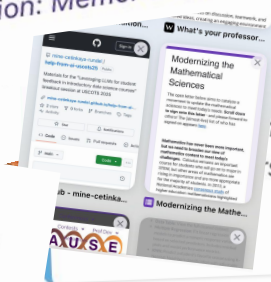
Authentic Data Explorations: Immersive Statistics  
 Maria Cruciani (Michigan State University)

B1B: Leveraging data technologies to model bigger datasets  
 Nicholas J. Horton (Amherst College), Johanna S. Hardin (Pomona College)  
 Location: Gerdin 0145

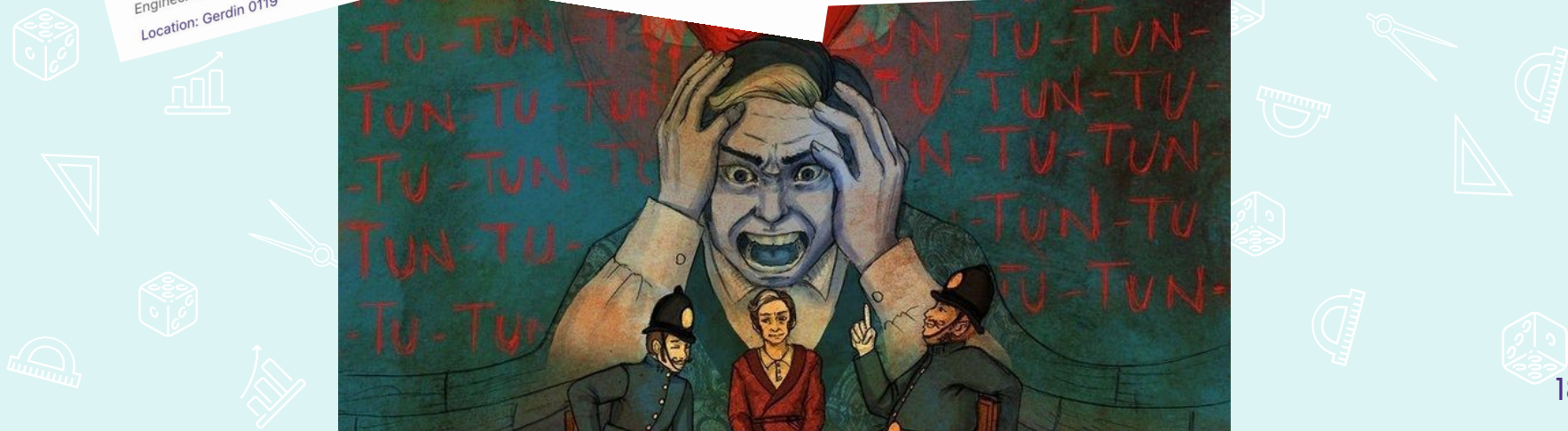
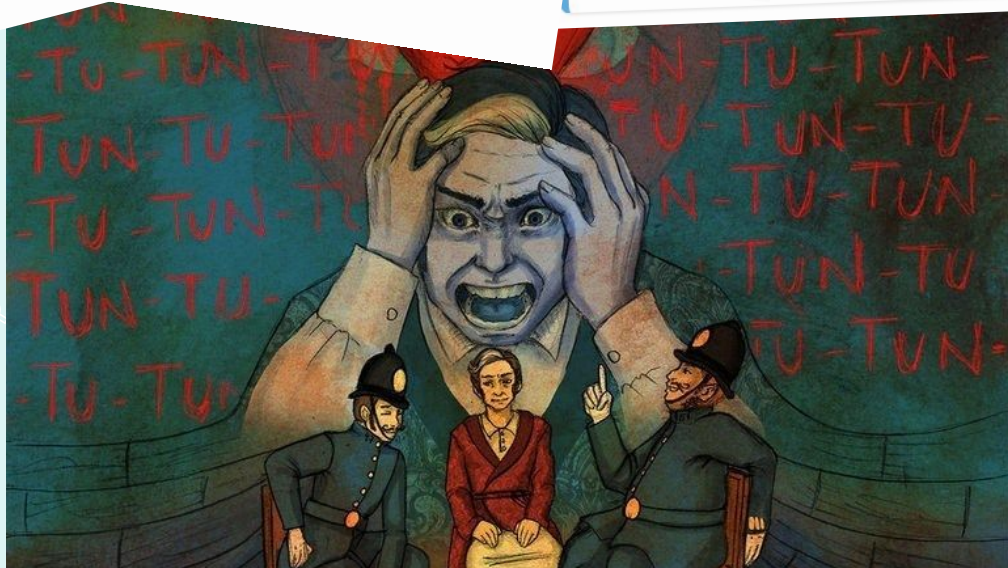
16, 8:30  
 Heather Barker (Electrical Engineering), Larry Cantwell  
 Location: Gerdin 0119



Keynote Session #1: Teaching about models: A unifying topic?  
 Beth Chance (Cal Poly, San Luis Obispo)  
 Location: Memorial Union - Ballroom



Agency: A Longitudinal Study of Statistics  
 University of Illinois Urbana-Champaign, Nicola Justice (University of Illinois Urbana-Champaign), Christopher Kinson (University of Illinois Urbana-Champaign)





Navigating the sea of statistics and data science education research:  
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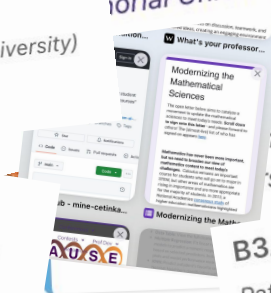
**B1B: Leveraging**  
Nicholas J. Horton (A  
Location: Gerdin 0145

**B4E: Essentials of the scholarship of teaching statistics**  
V. N. Vimal Rao (University of Illinois), Nina Bailey (Montclair State University)  
Location: Gerdin 0129

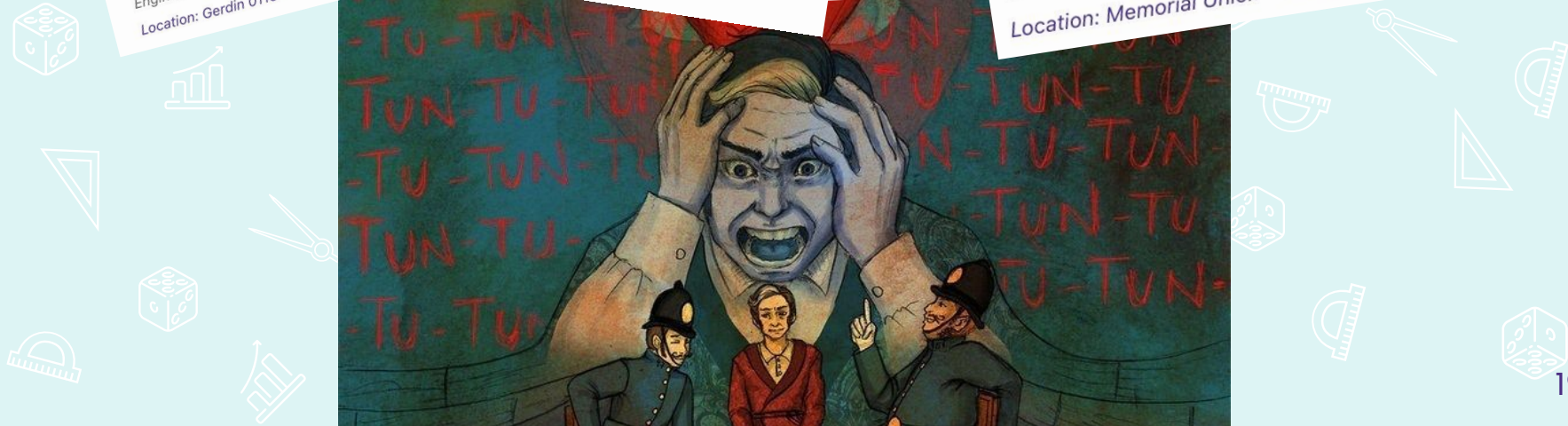
16, 8:30  
Heather Barker (En  
Engineering), Larry Cantwell  
Location: Gerdin 0119

**Bigger datasets**  
Johanna S. Hardin (Pomona College)

**Keynote Session #1: Teaching about models: A unifying topic?**  
Beth Chance (Cal Poly, San Lu  
B3E: Scaffolded learning in data science through  
Hunter Glanz (Cal Poly San Luis Obispo)  
Location: Gerdin 0129



**B3A: Courses modeled on the new College GAISE reco**  
Patti Frazer Lock (St. Lawrence University), Lisa Kay (Eastern Ker  
Location: Memorial Union - Sun Room





# Thank You!