

National Numeracy Network (NNN) Annual Meeting February 26-28, 2021 Online: 2 keynotes and 28 sessions

Keynote1: **Jevin West and Carl Bergstrom**
Co-Authors of "*Calling Bullshit*"

Teaching a 'Calling Bullshit' Course



One of the most important skills that students can learn is the ability to spot and refute rot, especially the kind wrapped in data, statistics and fancy algorithms. Over the last several years, we have been teaching students from STEM and non-STEM backgrounds to question numbers in the same way they question clickbait news and propaganda. Our philosophy is to focus less on the black box algorithm or procedure and instead focus on the data

entering and exiting the black box. That puts an emphasis on topics such as selection bias, correlation and causation.

In this talk, we will present what we have learned over the past several years teaching 'Calling Bullshit'. Our hope is to make this content accessible to instructors wanting to integrate this kind of data reasoning approach into their own classroom. We will provide example modules from our class, discuss testing and evaluation, and reflect on the challenges of taking this course online during the pandemic.

Keynote2: **Jessica Utts**, Past President of the ASA
Author of "*Seeing Through Statistics*"

Confounding, Multivariable Thinking and Interpreting Multiple Regression



Most college students will take at most one statistics course, and it's important to use that opportunity to help them understand results from statistical studies. A common error made in interpreting such studies is to attribute cause and effect when it is not warranted, usually because of confounding variables. Another common mistake is to ignore multivariable thinking by looking at the relationship between two variables without taking into account additional variables that could completely change that relationship. A more technical type of misinterpretation occurs in multiple regression when individual

coefficients are interpreted without taking into account the other variables in the model. **This talk will give clear and simple examples of these three types of misunderstandings that you can use in your classroom to illustrate them to students. Most of the discussion is relevant to a first course in statistics, whether it focuses on statistical literacy or a more traditional approach.** The interpretation of multiple regression may be more appropriate for a second course.

Annual Meeting Registration is Now Open

Registration link and schedule available on NNN home page at www.NNN-US.org