Resources for the 2019 WCSJ session Seeking elusive truths: How to judge statistical results as a non-statistician on statistics (available at bit.ly/wcsj19stats)

Abstracts discussed in the session: http://bit.ly/2019statsAbstract

## Where to get help interpreting statistics:

The American Statistical Association maintains a list of members who have volunteered to serve as sources of information for the media. The list is organized by area of expertise in fields of statistical application. http://bit.ly/statsSources

## HealthNewsReview primer on absolute vs relative risk and why it matters

https://www.healthnewsreview.org/toolkit/tips-for-understanding-studies/absolute-vs-relative-risk/

## HealthNewsReview toolkit for understanding studies

https://www.healthnewsreview.org/toolkit/tips-for-understanding-studies/

#### **Sources from Valentin**

Retire statistical significance. Amrhein V, Greenland S, McShane B. 2019. Nature 567, 305-307. bit.ly/retiresignif

The authors and 850 signatories call for an end to hyped claims based on arbitrary statistical thresholds

Inferential statistics as descriptive statistics: There is no replication crisis if we don't expect replication. Amrhein V, Trafimow D, Greenland S. 2019. The American Statistician 73, sup1, 262-270. bit.ly/noreplic

Guide to more humble and accurate reporting of study results, with some modest recommendations for researchers, science writers and journalists

The earth is flat (p>0.05): Significance thresholds and the crisis of unreplicable research. Amrhein V, Korner-Nievergelt F, Roth T. 2017. PeerJ 5, e3544. bit.ly/flatp05 History of, problems with, and solutions for applying p-values and significance testing

Moving to a world beyond "p<0.05". Wasserstein RL, Schirm AL, Lazar NA. 2019. The American Statistician 73, sup1, 1-19. bit.ly/beyondp05

Editorial to the special issue of The American Statistician: Statistical Inference in the 21st Century

<u>Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations</u>. Greenland S, Senn SJ, Rothman KJ, Carlin JB, Poole C, Goodman SN, Altman DG. 2016. European Journal of Epidemiology 31, 337-350. bit.ly/pmisinterpret

The most comprehensive introduction to common statistical misinterpretations

## **Stories from Christie**

# Statisticians Found One Thing They Can Agree On: It's Time To Stop Misusing P-Values

https://fivethirtyeight.com/features/statisticians-found-one-thing-they-can-agree-on-its-time-to-stop-misusing-p-values/

## Science Isn't Broken (Try out p-hacking)

https://fivethirtyeight.com/features/science-isnt-broken/

## Ignore The Headlines: We Don't Know If E-Cigs Lead Kids To Real Cigs

https://fivethirtyeight.com/features/ignore-the-headlines-we-dont-know-if-e-cigs-lead-kid s-to-real-cigs/

## **How Shoddy Statistics Found A Home In Sports Research**

https://fivethirtyeight.com/features/how-shoddy-statistics-found-a-home-in-sports-resear ch/

# A Flawed Statistical Method Was Just Banned From A Major Sports Science Journal

https://fivethirtyeight.com/features/a-flawed-statistical-method-was-just-banned-from-a-major-sports-science-journal/

You Can't Trust What You Read About Nutrition. We found a link between cabbage and innie bellybuttons, but that doesn't mean it's real.

https://fivethirtyeight.com/features/you-cant-trust-what-you-read-about-nutrition/

### What's a p-value?

https://fivethirtyeight.com/pvalue

### The red card study

https://psyarxiv.com/qkwst/