



Applied Statistics for Translational Researchers

August 14 (Sacramento) & August 28 (Davis)

12:00 –1:00 p.m.

Hypothesis Testing and P-value Pitfalls

Hypothesis testing is the foundation of statistical inference procedures. Yet the meaning of the results (e.g., p-values and confidence intervals) is often not fully understood or appreciated by investigators, potentially leading to a misinterpretation of the results. In this seminar, we will review the history and intent of inferential testing, discuss what Type I and II errors are, and explore how they impact interpretation of results and are related to statistical power. We will examine current criticisms of the use and interpretations of results based on p-values and provide recommendations for addressing limitations of the classic null hypothesis significance testing framework. Participants in this seminar will gain a more in-depth understanding of the objectives and limitations of classical inferential testing, which will allow them to more critically examine and interpret statistical analysis results.

Learning objectives:

- Be able to formulate research hypotheses for a statistical test
- Understand p-values and confidence intervals
- Appreciate Type I and II errors and their relation to power analysis and sample size calculations

Location:

Sacramento: Center for Health and Technology, Room 1347, 4610 X Street

Davis: Genome and Biomedical Sciences Facility, Room 4202

Please RSVP:

Registration preferred but not required.

Sacramento: <https://bit.ly/2X0drCy>

Davis: <https://bit.ly/2ErrppB>

For more information contact:

Sandra Taylor, Ph.D., at sltaylor@ucdavis.edu

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CTSC, MIND IDDRC, Cancer Center, and EHS.

Seminar Topics

August 14 & 28
Hypothesis testing and p-value pitfalls
Sandra Taylor, Ph.D.

September 11 & 18
Which test should I use? - Overview of statistical tests
Miriam Nuño, Ph.D.

October 9 & 16
My data aren't normal, Now what?
Machelle Wilson, Ph.D.

November 6 & 20
Getting funded or published: Writing statistical sections for grants and papers
Daniel Tancredi Ph.D.

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