The Department of Mathematics at the University of Dayton presents

The 15th Annual Kenneth C. Schraut Memorial Lecture

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Data Stories and Pictures; Discovering Lessons and Principles for Statistics and for Life

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Abstract:

Our world is full of data and of analyses of these data. Why are we doing to our data what we are doing to our data? Are there better ways to make inference from the deluge of data swamping us daily? Are there lessons and principles that can be applied to increase our understanding of our data and our world?

The answer is "Yes"; there are better ways. But those better ways require us to slow down, ask serious questions, take responsibility for our inferences, and, most of all, THINK about what we are doing.

We will wander through a series of data stories and pictures derived from them, along the way learning lessons and picking up principles. I promise no formulas; this talk is family-friendly. But you will be challenged to think.

And, at the end, there will be a fun surprise. Really.

About the speaker:

Dr. Donahue graduated from the University of Dayton in 1987 with a BS degree in Mathematics and from Colorado State University in 1992 with a PhD degree in Statistics. He moved to a career in the pharmaceutical industry, working with clinical trials and their data with various companies. In 2001, he took a new role in data mining, examining data from large data sets on the commercial side of the industry; in 2005, he moved to Vanderbilt University Medical Center to experience the academic side of (bio)statistics; in 2008, he accepted an offer to provide statistical support for a small orthopedic device company in Franklin, TN.

He has published articles in a variety of journals and spoken at professional meetings on a variety of topics including theoretical statistics, clinical statistics, psychiatry, smoking cessation, surgery, emergency medicine, orthopedics, and Lego building. With a number of colleagues he regularly teaches a two-day course through the Drug Information Association entitled "Clinical Statistics for Non-statisticians".

Dr. Donahue's current research interests focus on improving data presentations and the inference derived from them. He has self-published a book on statistical displays ("Fundamental Statistical Concepts in Presenting Data; Principles for Constructing Better Graphics"), some highlights of which will be included in this talk.

He lives in Brentwood, TN, a suburb of Nashville, with his wife, Michelle, and their little Coton de Tulear, Sophie. Very recent empty nesters, they follow online the adventures of their three college-aged children: Harry (West Point, 2015), Zach (Gonzaga, 2016), and Olivia (Samford, 2018). In his recently newfound spare time, he enjoys studying the history of science, exploration, and mathematics, an intellectual passion that matches well with building things with Lego blocks. He has won awards for his Lego contraptions at adult Lego fan conventions and has constructed Lego mechanical computing equipment (a binary counter, a Kelvin wheel-and-disc integrator, a posterior-Bayes estimator, and an orrery that accounts for leap years and seasons) and other whimsical creations.