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"By the Numbers"
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Recent News

By the Numbers -- Baxter Statistician's Work Adds Up to Major Recognition

In 1989, George H. W. Bush succeeded Ronald Reagan as President of the United States, the last Soviet troops left Afghanistan, and "Seinfeld" made its debut on NBC. In other news, a paper by Dr. Lawrence Lin, a Baxter statistician who had been with the company for nearly a decade, was published in *Biometrics*, the journal of the International Biometric Society. "A Concordance Correlation-Coefficient to Evaluate Reproducibility" has since gone on to become one of the most frequently cited statistical papers, earning about 139 citations annually since 2008 -- and the number of academic citations for Dr. Lin's groundbreaking paper is growing exponentially each year.

As evidence of the popularity of Dr. Lin's paper, a recent article in *American Statistician*, which is published by the American Statistical Association, named it one of the most influential papers of the past 25 years. Specifically, the article in American Statistician, titled "Identifying Key Statistical Papers from 1985-2002 using Citation Data for Applied Biostatisticians," selected the 59 most influential papers among roughly **12,000** papers from 12 reputable statistical journals. Dr. Lin's paper was named as the 21st most influential based on the number, prominence and diversity of citations.

"I am honored and humbled by the recognition from the American Statistical Association," said Dr. Lin, who has now been with Baxter for more than 30 years and is based at the company's Round Lake facility under Statistics, Epidemiology and Surveillance (SES). "It's rewarding to see that this work has been useful in a number of different industries and even across our businesses here at Baxter. I'm indebted to the innovative environment that Baxter has provided. Also, as an adjunct professor myself, I am especially proud that this is one of only two papers from industry on a list comprised otherwise of university contributions."

About Dr. Lawrence Lin

- Joined Baxter 1979
- Also an adjunct professor at the University of Illinois Chicago
- Now writing two books
- Born in Taiwan, earned his graduate degree and Ph.D. from the University of Iowa

Dr. Lin's paper is considered an important advance in the application of "agreement" theory to practice. Specially, his study proposes a desirable reproducibility index, called a concordance correlation coefficient, which evaluates the agreement between paired readings (from the same sample) by measuring the variation from the 45 line through the origin (the concordance line). The coefficient has been widely used to validate a newly developed instrument, assay, scoring system, and/or lab performance. Dr. Lin prefers to put it more simply: "This coefficient provides a new and correct way of looking at things that has traditionally been using misleading approaches."