Information Science and Technology Seminar Series

Joseph M. Hilbe
Chair, International Astrostatistics Network and ISI Astrostatistics Committee

"Recent Advances in Astrostatistics: Guidelines for the Future"

Wednesday, October 12, 2011
3:00 - 4:00 PM
TA-3, Bldg. 1690, Room 102 (CNLS Conference Room)

Abstract: One of the first uses of statistics was in the application of basic descriptive statistics to the understanding of astronomical data. Statistical regression too had its beginning with an application to predicted astronomical location. However, during the last century a schism of sorts existed between the disciplines of astronomy and statistics. This rift has recently been bridged due to newly developed statistical procedures and software applications which were not feasible to implement prior to the mid 1990s. Moreover, astrostatistical groups and the new International Astrostatistics Network have brought together statisticians and astronomers from various sub-disciplines with the aim of fostering collaboration. These efforts are proving to be successful, and are leading to the development of new statistical methodologies for better understanding the mass of data being generated from the new data-generating technologies. We examine the history of astrostatistics, the types of statistical tools being created, and how recent developments can lead to a new profession of astrostatistics. We also discuss how recent advancements in statistics can impact the different specialties within astronomy.

Biography: Hilbe is an Adjunct Professor of Statistics at Arizona State University, an emeritus professor at the University of Hawaii, a Solar System Ambassador with the Jet Propulsion Laboratory, and a senior instructor with Statisics.com. Founder and Chair of both the International Astrostatistics Network and the International Statistical Institute (ISI) astrostatistics committee. Prof. Hilbe is also an elected Fellow of the American Statistical Association and elected member of the ISI. He is editor-in-chief of the new Springer Series in Astrostatistics, and author of the best selling texts, Logistic Regression Models (2009,Chapman & Hall/CRC) and Negative Binomial Regression, second edition (2011, Cambridge University Press), as well as author of several other popular texts on statistical modeling. In addition, Prof. Hilbe has authored over a hundred journal articles and published software applications, and a number of book chapters and encyclopedia articles, including three primary articles for both the International Encyclopedia of Statistical Sciences and StatProb.

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