March 30, 2007

Colorado-Wyoming Chapter

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Dr. Jianqing Fan "Fredrick L. Moore" Professor of Finance, Princton Univeristy and President elect of Institute of Mathematical Standards, will be visiting CSU for several days and giving a series of talks. The titles are below. Further information can be found at CSU's website.

High-dimensional statistcal learning and inference
Wednesday, April 11, 2007
A205 Clark 3:05 p.m.-4:00 p.m.

Statistical Analysis of DNA Microarray Data
Thursday, April 12, 2007
A202 Clark 3:05 p.m.-4:00 p.m.

Option pricing with aggregation of physical models and statistical learning
Friday, April 13, 2007
Glover 130 3:00 p.m.-4:00 p.m.

Details can be found at

http://www.stat.colostate.edu/seminars/departmental.html

###Colorado/Wyoming ASA Chapter Spring Meeting
Friday April 20th 9am to 4:30.
National Center for Atmospheric Research Mesa Lab.
Possibly the most beautiful places to have a meeting on the front range.

Plan now. Our spring meeting is 3 weeks from today. The event is free and advanced registration is not required. Perfect weather guaranteed. Below are some abstracts from the invited speakers. A schedule of the day's events is still being created. At the spring meeting we like to offer students a chance to present some of their research. This is typically arranged through the schools, but if there are students interested in giving a short presentation, they are encouraged to contact me at pocernic@ucar.edu.

**** Elections
This year there are three Chapter offices open for election: secretary, newsletter editor and president-elect. In recent years, the officers have been operating more like an executive board. We meeting a couple times a year but most business using emails. The newsletter has been replaced by these emails notes and we have been using meeting agendas to summarize meetings. A person serves as president-elect for a year before becoming president for a year. The officers elected will have some additional duties and opportunities with the JSM being here in Denver next summer.

If you or someone you know might be interested in being an officer, please let us know. The obligations aren't overwhelming but they do require a steady commitment.

**** Tour of NCAR's visualization lab*
Back by popular demand, a demonstration of NCAR's VisLab will occur before the meeting. The VisLab is a state-of-the-art scientific visualization environment, providing an immersive environment for visualizing complex datasets in stereo-3D and collaborating across sites via AccessGrid video teleconferencing. From a statistical perspective, the VisLab allows data to be illustrated with both motion

and depth. A 30 minute demonstration will be held before the meeting.

More information on the VisLab can be found at

http://www.vets.ucar.edu/Vislab/index.shtml
http://www.vets.ucar.edu/vg/index.shtml

Selected Speaker Abstracts

Multiple Comparisons in Clinical Trials for Regulatory Purposes: A Brief Overview with Discussion

Brian L. Wiens
Gilead Colorado, Inc.

We consider the problem of multiple hypothesis tests in clinical trials aimed at supporting regulatory approval of a new medical therapeutic. Sponsors (generally pharmaceutical companies) must plan a multiple comparison procedure that allows for precise differentiation of an investigational product compared to placebo. This often begins with specification of one or more primary endpoints, one or more secondary endpoints, etc. This can be complicated by the use of multiple treatment groups such as multiple doses or multiple regimens of the investigational product. The current trend seems to be toward using more complicated study designs due to factors such as increased sophistication of clinical trial specialists and a desire for faster, more efficient drug development. We discuss the regulatory hurdles and some ways that statisticians are approaching them, including some state-of-the-art procedures for handling multiple comparisons such as fallback, gatekeeping and tree-structured tests.

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Covariance Tapering for Likelihood Based Estimation in Large Spatial Datasets
Cari Kaufman, Statistical and Applied Mathematical Sciences Institute

(SAMSI) and National Center for Atmospheric Research (NCAR)

Likelihood-based methods such as maximum likelihood, REML, and Bayesian methods are attractive approaches to estimating covariance parameters in spatial models based on Gaussian processes. Finding such estimates can be computationally infeasible for large datasets, however, requiring O(n3) calculations for each evaluation of the likelihood based on n observations. I will discuss the method of covariance tapering to approximate the likelihood in this setting. In this approach, covariance matrices are ``tapered,'' or multiplied element-wise by a compactly supported correlation matrix. This produces matrices which can be be manipulated using more efficient sparse matrix algorithms. I will present two approximations to the Gaussian likelihood using tapering and discuss the asymptotic behavior of estimators maximizing these approximations. I will also present an example of using the approximations in a Bayesian model for the climatological (long-run mean) temperature difference between two sets of output from a computer model of global climate, run under two different land use scenarios.

Fiducial Inference of R. A. Fisher -- History, Applications, and Generalizations

Speaker: Hari Iyer, Department of Statistics, Colorado State University

R. A. Fisher introduced the FIDUCIAL ARGUMENT which he used to derive confidence intervals for the difference between two normal means when the variances are unequal -- the so called Behrens-Fisher problem. He also used this approach to derive interval estimates in several other situations. However his contemporaries found a number of shortcomings with the fiducial method. It is safe to say that the fiducial method eventually fell into disfavor among statisticians. Recently the fiducial method appears to be enjoying a revivial of sorts. In this talk I will give a brief overview of the history of fiducial inference, give examples and applications of the fiducial argument, and discuss recent generalizations that makes the fiducial approach a powerful tool for deriving inference procedures. Asymptotic properties and small sample simulations confirm that fiducial procedures have excellent operating characteristics in general. [Based on joint work with my colleagues Jan Hannig, Jack Wang, and several former and current PhD students from the department of statistics at Colorado state university].

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Rick Katz - NCAR

Colorado School of Mines
Friday Afternoon April 27
Details to follow

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An Archive of these Chapter Announcements can be found at
http://mailman.ucar.edu/pipermail/cowystats/

Have a good weekend.

Matt
-- Matt Pocernich National Center for Atmospheric Research Research Applications Laboratory (303) 497-8312 _____ Cowystats mailing list Cowystats@ucar.edu
http://mailman.ucar.edu/mailman/listinfo/cowystats