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## Spring 2003 Meeting Notice

### Northeastern Illinois Chapter American Statistical Association

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**DATE:** Thursday, March 6, 2003 (Luncheon at 11:30 a.m.)

**LOCATION:** Embassy Suites, 1445 Lake Cook Road, Deerfield, IL 60015. (Telephone: 847-945-4500.)

**RESERVATIONS:** Advance reservations are required and must be received by 4 p.m., Thursday, February 27. Cancellations cannot be accepted after this date, and "no shows" will be billed. Registration is transferable except for the \$5 in membership dues (\$1 for students) that is included in the non-member fees. (Please circle in the following table the amount you are paying.)

FEES:	Luncheon & Sessions		Sessions Only		NIC
	Member	Non-Member	Member	Non-Member	Membership Only
Regular (Corp./Govt.)	\$50.00	\$55.00	\$25.00	\$30.00	\$5.00
Academic (Univ./H.S.)	\$40.00	\$45.00	\$15.00	\$20.00	\$5.00
Full-time Student	\$11.00	\$12.00	no charge	\$1.00	\$1.00

Since membership is held on a calendar year basis, if you have not expressly joined the Chapter this year, you should pay the non-member rate. Doing so will make you a member for 2003.

**PAYMENT:** Make checks payable to: Northeastern Illinois Chapter, ASA

**REGISTRATION:** Please mail, e-mail or fax (no call-ins please) the registration form (below) to:

**Harold W. Frush**

D-07B2 AP5N

Abbott Laboratories

100 Abbott Park Road

Abbott Park, IL 60064-6070

Phone: (847) 937-5332

Fax: (847) 935-3320

Email: harold.frush@abbott.com

#### PROGRAM:

11:00 – 11:30 Registration

11:30 – 12:30 Luncheon

12:30 – 12:45 Business Meeting

12:45 – 13:40 Speaker: Dr. Art Roth – *Conditional Confidence Intervals for Risk Ratios and Risk Differences Based on a Generalization of Fisher's Exact Test*

13:40 – 13:55 Break

13:55 – 14:50 Speaker: Mr. Dan Frobish – *Quality of Life in Epilepsy Patients After Resective Surgery*

14:50 – 15:05 Break

15:05 – 16:00 Speaker: Dr. Kiang Liu – *Multi-Ethnic Study of Atherosclerosis (MESA): Rationale, Design and a Statistical Issue*

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#### NORTHEASTERN ILLINOIS CHAPTER MEETING REGISTRATION/MEMBERSHIP DUES

Name \_\_\_\_\_

Company \_\_\_\_\_ Department \_\_\_\_\_

Street Address \_\_\_\_\_ Work \_\_\_\_\_ Home \_\_\_\_\_

Telephone (\_\_\_\_) \_\_\_\_\_ Work \_\_\_\_\_ Home \_\_\_\_\_ E-mail address \_\_\_\_\_

I will be attending:  Luncheon and Sessions  Sessions only

I will not be attending the meeting and am enclosing my  Membership Dues Only.

2003 NIC/ASA member prior to this registration? (See FEES for details)  Yes  No

Membership Type: (1) Regular (Corp./Govt.); (2) Academic (Univ./H.S.); (3) Full-Time Student

Tax Identification Number 52-1665956

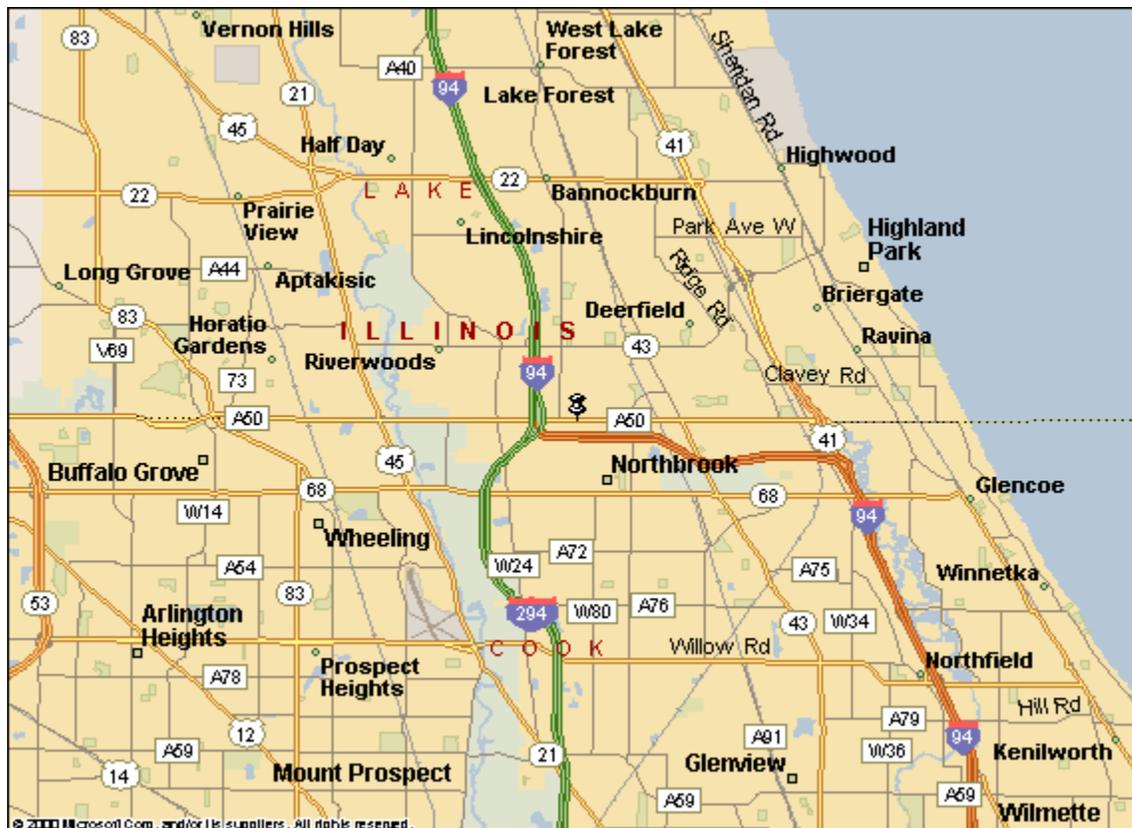
## ***Directions to Embassy Suites, 1445 Lake Cook Road, Deerfield, Illinois 60015***

**FROM DOWNTOWN CHICAGO:** Take 94 North to Edens Expressway. When 94 exits right for the Tri-State Tollway (towards Milwaukee), go straight (you will be on U.S. 41) and take the next exit (Lake Cook Rd.). Left at the end of the ramp to hotel, about 3 miles (just past Huehl Road).

**FROM THE WEST:** Take the 294 (Tri-State Tollway) North to Lake Cook Rd. Exit eastbound. The Embassy Suites hotel is less than a mile east of the Tollway.

**FROM THE NORTH:** Take the 294 (Tri-State Tollway) South to Lake Cook Rd. Exit eastbound. The Embassy Suites hotel is less than a mile east of the Tollway.

**FROM THE SOUTH:** Take the 294 (Tri-State Tollway) North to Lake Cook Rd. Exit eastbound. The Embassy Suites hotel is less than a mile east of the Tollway.



## 20th Annual Spring Meeting

### **Conditional Confidence Intervals for Risk Ratios and Risk Differences Based on a Generalization of Fisher's Exact Test**

Consider the problem of comparing two binomial parameters,  $p_1$  and  $p_2$ , and let  $\theta=p_1/p_2$  and  $\delta=p_1-p_2$ . To answer questions about  $\theta$  and/or  $\delta$ , statisticians disagree about whether conditional or unconditional inference is more appropriate; this question will be briefly addressed, but the main part of the presentation will assume a framework in which conditional inference has already been chosen, in which case Fisher's Exact Test (FET) is almost universally employed. However, FET provides only a p-value for testing  $H_0: \theta=1$  (or equivalently,  $H_0: \delta=0$ ). The task of producing a corresponding confidence interval for  $\theta$  and/or  $\delta$  is difficult due to the presence of a nuisance parameter. Previously proposed methods for obtaining conditional confidence intervals include some that have been shown not to consistently provide the claimed nominal coverage and one by Santner and Snell (SS, 1980) that is, by their own admission, unduly conservative. In this presentation, two different generalizations of FET will be proposed to test  $H_0: \theta= \theta_0$  (not necessarily 1), and two analogous generalizations of FET will be proposed to test  $H_0: \delta= \delta_0$  (not necessarily 0). For each hypothesis, one of the generalizations sets the nuisance parameter to its maximum likelihood estimate; since this estimate has some error associated with it, the resulting p-value is only approximately correct, though evidence suggests that this approximation is quite good

(near-exact) except when sample sizes are very small. The second generalization of FET makes use of an idea of Berger and Boos (1994), which maximizes the p-value over a subset of the nuisance parameter space instead of over the entire space and makes a very small adjustment to the result as "payment" for the privilege of ignoring the rest of the space. The resulting p-value is exact rather than approximate. (The original intention was to also consider the obvious possibility of maximizing the p-value over the entire nuisance parameter space, but this idea was abandoned when the resulting test turned out to have some very undesirable properties.) Each of the two generalizations of FET can, of course, be inverted to produce confidence intervals that have the same level of "exactness" as the corresponding test. Both of these methods satisfy the claimed conditional and unconditional confidence guarantees, and produce confidence intervals that are notably narrower than those of SS. This research is joint work with Dr. Devan Mehrotra.

### **Art Roth Pharmacia**

Dr. Arthur J. Roth has spent the past 23 years in the pharmaceutical industry, providing statistical support primarily to pathologists and toxicologists responsible for animal studies designed to ensure product safety. He has a national and even international reputation for his expertise in this area, particularly with respect to carcinogenicity studies, on which his opinions have been sought both by committees charged with formulating the

industry's responses to various proposed regulatory guidelines and by a major toxicological journal soliciting a range of written expert statistical opinions on certain aspects of the analysis of carcinogenicity studies. He was with CIBA-GEIGY for 8 years before spending the last 15 years with his current company (at various times named Searle, Monsanto, and Pharmacia, and soon to become part of Pfizer). In 1996, in recognition of his service to the company, the profession, and the industry, he became the first Searle statistician ever to be promoted to the prestigious position of Monsanto Fellow, and his current title is Pharmacia Fellow.

Dr. Roth has an AB degree in mathematics from Cornell University and a Ph.D. in statistics from the University of Minnesota. After obtaining these degrees, he spent 5 years on academic faculties (Carnegie-Mellon University and Syracuse University), during which time he was first exposed to pharmaceutical work as a consultant to Bristol-Myers. He has about 20 publications in various statistical and subject matter journals, and he has given numerous presentations on his work, including two previous appearances on NIC's programs and several invited talks at ASA and PhRMA sponsored meetings, workshops, and symposia. His presentation at the 1991 national ASA meetings earned him the "Best Contributed Paper" award from the ASA's Biopharmaceutical Section. He has held several offices and other positions in two local ASA chapters including NIC, most notably serving as NIC's president in 1998, and he was given an award in 1999 by the ASA's Council of Chapters in recognition of his service to NIC.

**Quality of Life in Epilepsy Patients after Resective Surgery**

Five dimensions of quality of life were measured repeatedly on epilepsy patients experiencing resective surgery. We model the results on seizure outcome and other covariates.

**Daniel Frobish  
Northern Illinois University**

Daniel Frobish is a graduate student at Northern Illinois University pursuing a Ph.D. in Statistics with an emphasis in Survival Analysis. His main area of interest is Counting Processes. The

quality of life work was done as part of a graduate research assistantship.

**Multi-Ethnic Study of Atherosclerosis (MESA): Rationale, Design and a Statistical Issue**

Despite the decline of cardiovascular disease (CVD) mortality for the last thirty years, it still remains the number one killer in the United States. Currently, some studies have reported that several high-tech imaging techniques are able to detect certain types of subclinical CVD, asymptomatic anatomic or physiological changes in blood vessels or heart, prior to the onset of clinical CVD. In order to further reduce CVD mortality and morbidity, the National Institutes of Health (NIH) sponsored a multi-center longitudinal study to investigate the prevalence, determinants and progression of subclinical CVD in a population-based sample of men and women aged 45-84 years at baseline (2000-2002). This presentation will discuss the rationale and design of the study. In addition, one of the measures of the subclinical CVD is the coronary calcium score, which is based on the densities and areas of the calcified plaques in four main coronary arteries. The distribution consists both of many zeros and highly skewed (to the right) positive values. A statistical method is proposed for analyzing this type of data, which can also be applied to the analysis of health care cost data. The strengths and weaknesses of the method will be discussed.

**Kiang Liu  
Northwestern University**

Dr. Kiang Liu is Professor of Preventive Medicine and Medicine at Northwestern University, Feinberg School of Medicine. He has been involved in research on cardiovascular disease (CVD) and nutrition epidemiology, and biostatistics since 1976. He is the Principal Investigator for the Chicago Field Center of the CARDIA Study, an ongoing National Heart, Lung, and Blood Institute (NHLBI) sponsored longitudinal study on lifestyle and evolution of cardiovascular disease risk factors. He is also the Principal Investigator of the Chicago Field Center of the Multi-Ethnic Study of Atherosclerosis, a NHLBI sponsored longitudinal study on factors

associated with progression of subclinical cardiovascular disease. Dr. Liu was a recipient of a NHLBI Career Development Award. He is a fellow of the American Heart Association and an elected member of the American Epidemiologic Society. He has published more than 150 papers in the areas of CV epidemiology and statistical methodology.

~Bala Hosmane

## President's Report

Happy New Year! As I sit in my office writing the President's Report for the Spring Newsletter on this relatively balmy (not!) January day, it is somewhat amusing that I have just received a message concerning the "Deadline Extension – Call For Papers – Hawaii International Conference on Statistics and Related Fields." Information on this conference can be found at <http://www.hicstatistics.org>. For information related to other upcoming regional/national meetings, see the Calendar section of the newsletter.

In case you were unable to attend the Fall Chapter Meeting, I would like to introduce the "new" Chapter Officers for 2003. Domenic Reda is Past-President, Rick Rode is President, and Bala Hosmane is President-Elect and Program Chair. Theo Cohen and Harold Frush have kindly agreed to continue in their respective roles as Secretary and Treasurer. I would also like to thank Donna Kowalski, outgoing Past-President, for her dedication and service to the Chapter, and her expert advice in addressing questions for which answers did not always appear in the "job description" for President-Elect and Program Chair, my former role.

The speaker line-up for the 2003 calendar year is almost complete, and I would like to thank Bala Hosmane and the Program Committee for their efforts in this regard. The scheduled speakers for the 20th Annual Spring Meeting, as noted elsewhere in the Chapter Newsletter, are Art Roth, Dan Frobish, and Kiang Liu. It is especially encouraging to see a graduate student asked to present information related to her/his research interests, and reminds me of the times (not so long ago!) that my PhD committee recommended

that I attempt to present details of my thesis at regional and national statistical meetings.

As mentioned in the President's Report in the Fall 2002 Chapter Newsletter, our financial position does appear to be improved from this time last year. With that in mind, the Executive Committee has agreed to (nominally) sponsor the Conference on New Directions in Experimental Design, scheduled for May 14-17, 2003, in Chicago, Illinois. If you would like additional information concerning this conference, please contact Dibyen Majumdar, Department of Mathematics, Statistics, and Computer Science (m/c 249), 851 S. Morgan, Chicago, Illinois 60607, USA, (312) 996-4833, [dibyen@uic.edu](mailto:dibyen@uic.edu), or [www.math.uic.edu/~kjryan/dae2003.html](http://www.math.uic.edu/~kjryan/dae2003.html).

Finally, we are still in need of Chapter Members who would be willing to assume a leadership role, either now or in the future. Currently, we are looking for someone with knowledge of MS Access who would be willing to work with the Chapter Treasurer, Harold Frush, to maintain our membership database. In addition, we are seeking someone who would be interested in helping our Newsletter Editor, Anita Ross. If you are interested in these or other Chapter positions, please contact me at either (847) 937-3757 or [Richard.Rode@Abbott.com](mailto:Richard.Rode@Abbott.com).

~ Richard Rode

## Spring Meeting

The spring meeting will be held on March 6, 2003, at Embassy Suites, 1445 Lake Cook Road, Deerfield, Il. 60015. The telephone number is 847-945-4500. If you have special needs, please contact Peter Yu (847-236-2359; [peter.yu@tappharma.com](mailto:peter.yu@tappharma.com)), or Renee Alpern (708-202-4897; [alpern@research.hines.med.va.gov](mailto:alpern@research.hines.med.va.gov)).

~ Peter Yu and Renee Alpern

## Summer Workshop

Dick De Veaux, Professor of Statistics at Williams College, has agreed to give a

presentation on Data Mining at our 19th Annual Summer Workshop, to be held on June 12, 2003. Additional details will be forthcoming.

~ *Bala Hosmane*

## Treasurer's Report

<b>BALANCE 01/01/2002</b>	<b>3,491.74</b>
<b>INCOME</b>	
2002 Spring Meeting	2,676.00
2002 Summer Workshop	7,260.00
2002 Fall Meeting	2,580.00
Bank Interest (thru 8/31/2002)	80.76
Total Income	12,596.76
<b>TOTAL ASSETS</b>	<b>16,088.50</b>
<b>EXPENSES</b>	
2002 Spring Meeting	(2,140.87)
Book Giveaway	(101.33)
2002 Summer Workshop	(6,316.93)
2002 Fall Meeting	(2478.90)
Bank Charges	(5.00)
Refund of Overcharge	(15.00)
Teacher's Workshop Expense	(66.34)
Total Expenses	(11,124.37)
<b>BALANCE 12/31/2002</b>	<b>4,964.13</b>
<b>2002 Paid Memberships</b>	
	138
Non-Students	130
Students	8

~ *Harold Frush*

## Community Activities

It is Science Fair time again and our Chapter presents awards to the best projects in the regional science fair who show the best use of statistics in their experiment. The Region 6 science Fair will be held at Niles North on Saturday morning, March 22nd from 9:00 a.m. until noon. I would like to invite anyone to come and help us view and judge projects you may think worthy of our Chapter's award. Last year we had only three

volunteers and we had a hard time finishing our work before noon.

It is a very rewarding experience to meet our future scientists and statisticians as they try to explain their statistical findings as best they can for their present grade level.

Please try and meet with us on Saturday, the 22nd of March. For more info, please e-mail me at [cbernett@ix.netcom.com](mailto:cbernett@ix.netcom.com).

We hope more of our members, new and old, will join us for this event.

~ *Carole Bernett*

## Calendar

Following are some upcoming regional/national events that may be of interest to you. Check the ASA web site ([www.amstat.org/dateline](http://www.amstat.org/dateline)) for further details:

- International Biometric Society Eastern North American Region (March 30 – April 2, 2003; Tampa, Florida)
- Conference on Applied Statistics in Agriculture (April 27 – 29, 2003; Manhattan, Kansas)
- Third SIAM International Conference on Data Mining (May 1 – 3, 2003; San Francisco, California)
- Conference on New Directions in Experimental Design (May 14 – 17, 2003; Chicago, Illinois)

## Chapter Webpage

Don't forget to visit our Chapter web page at <http://www.amstat.org/chapters/NortheasternIllinois/nic.htm>. The website can also be accessed by following links found on the main ASA web page ([www.amstat.org](http://www.amstat.org)). Select *Chapters*, then *Chapter Links by District*, then *North Eastern Illinois* (Under District 4), and finally, *Visit the Northeastern Illinois Chapter home page*.

The Chapter website has lots of information about our Chapter, including events, program information, a listing of members, and contact

information for Chapter officers and committee members. You can also peruse PDF versions of current and past Chapter newsletters.

~Paul Cernohous

## Officers and Committee Chairs

### **PRESIDENT**

Richard Rode  
(847) 937-3757  
Richard.A.Rode@abbott.com

### **PRESIDENT-ELECT AND PROGRAM CHAIR**

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**Statfax** is published three times a year (Spring, Summer, and Fall), by the Northeastern Illinois Chapter of the American Statistical Association.

**Statfax** welcomes letters and material for articles from its readers. Address correspondence to: The Editor, Statfax, c/o Anita Ross, Ross Consulting, 4554 Main St., Skokie, IL, 60076.

The Chapter's purpose, as stated in its Constitution, is "to foster statistics and its applications and promote the interests of the statistical profession...". Accordingly, diverse views are presented. They do not necessarily reflect the opinions of the officers or the policies of the Chapter.

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**Northeastern Illinois Chapter, ASA  
c/o Linda C. Odom, Membership Chair  
CORE / Evanston Northwestern Healthcare  
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