Fall Meeting Notice

Northeastern Illinois Chapter
American Statistical Association

DATE: Thursday, OCTOBER 26, 2000, at 1:00 p.m. (Luncheon at 12:00 noon.)

LOCATION: Double Tree Guest Suites, 1400 Milwaukee Ave, Glenview, IL. (Telephone: 847.803.9800)

RESERVATIONS: Advance reservations are required and must be received by 4 p.m., Thursday, OCTOBER 19. Cancellations cannot be accepted after the above date, and "no shows" will be billed. Registration is transferable except for the $5 in membership dues ($1 for students) that are included in the non-member fees.

FEES:	Luncheon & Sessions		Sessions Only		NE Chapter
	Member	Non-Member	Member	Non-Member	Membership Only
Regular	$35.00	$40.00	$15.00	$20.00	$5.00
Full-time Student	$ 6.00	$ 7.00	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 2000.

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:

Josephine Ribaudo
1000 Central Street
Suite 101
Evanston, Il 60201

(847) 570-1736
Fax (847) 733-5195
jribaudo@enh.org

PROGRAM:		
11:30am – 12:00	Registration and Sign-In
12:00 – 1:00	Luncheon
1:00 – 1:10	Business Meeting
1:10 – 2:10	David Cella: Quality of Life Measurement, Analysis and Interpretation in Cancer
2:10 – 2:30	Break
2:30 – 3:30	Ajit C. Tamhane and Brent D. Logan: Multiple Test Procedures for Identifying the Minimum Effective and Maximum Safe Doses Simultaneously
3:30 – 4:30	Radha G. Mohanty:Papadakis Nearest Neighbor Adjustment of Yield in Agricultural Field Testing

NORTHEASTERN ILLINOIS CHAPTER MEETING REGISTRATION/MEMBERSHIP DUES

Name _____
Name for meeting badge (if different) _____
Department _____
Company_____
Street_____
City/State/Zip _____
Phone (_____)_____
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.
2000 NIC/ASA member prior to this registration?
(See FEES for details) ___ Yes ___ No
The above address & phone number are for: ___ Work ___ Home
Full-time student? ___ Yes ___ No
Send my newsletters/meeting notices via: ___ Email ___ U.S. mail
Tax Identification Number 52-1665956

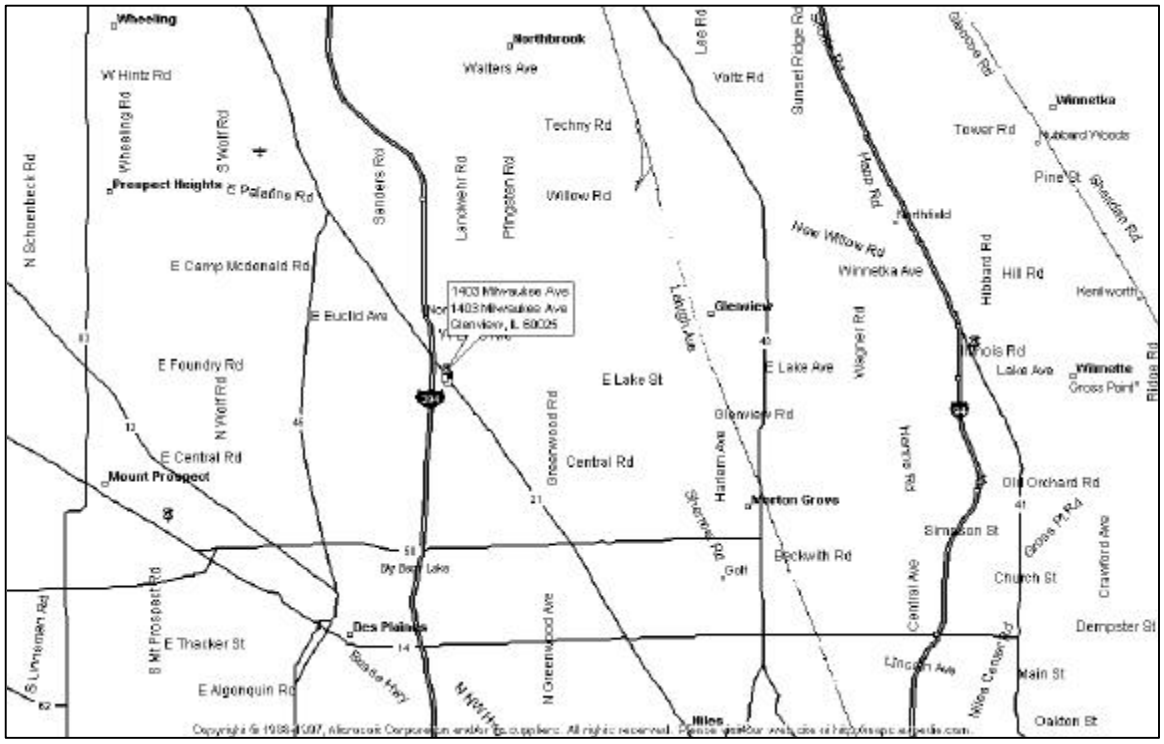
Directions to the Double Tree Guest Suites

FROM DOWNTOWN CHICAGO: 90/94 West to O'Hare/Rockford, 294 North/Milwaukee, WI; exit at Willow Road. West on Willow Road to Milwaukee Ave., South on Milwaukee to Hotel.

FROM THE WEST: 90 East to 294 North; exit at Willow Road, West on Willow Road to Milwaukee Ave., South on Milwaukee to Hotel.

FROM THE NORTH: 94 East to 294 South; exit at Willow Road, West on Willow Road to Milwaukee Ave. South on Milwaukee to Hotel.

FROM THE SOUTH: 294 North; exit at Willow Road, West on Willow Road to Milwaukee Ave., South on Milwaukee to Hotel.



Northeastern Illinois Chapter of the American Statistical Association

Volume 15, Issue 3
Fall, 2000

Statfax . . .

17th Annual Fall 2000 Meeting Program

Quality of Life Measurement, Analysis and Interpretation in Cancer

David Cella
Evanston Northwestern Healthcare

There are now many available questionnaires to measure self-reported quality of life as it relates to health. Generic questionnaires assess broadly-defined general health concepts (pain, activity level, etc.), and disease-specific instruments measure more specific symptoms and concerns associated with a given disease. In cancer treatment evaluation research (e.g., clinical trials), most investigators use disease-specific questionnaires due to their improved responsiveness to change over time. And yet, generic instruments have advantages relating to one's ability to compare ("benchmark") one's data to other reference groups. Therefore, hybrid questionnaires that measure generic health concepts and specific symptoms, such as the Functional Assessment of Cancer Therapy, have emerged. This presentation will describe the FACT Measurement System and its applications in oncology. Specific attention will be given to the comparability of scores across instruments, defining clinically meaningful change, defining and measuring higher order health concepts such as physical and mental well being, and modern psychometric approaches (using item response theory) to shorten assessment without compromising precision. Specific applications such as computerized adaptive testing will also be discussed.

David Cella, Ph.D. is currently Research Professor, Institute for Health Services Research and Policy Studies, Northwestern University, Professor of Psychiatry and Behavioral Science, Northwestern University Medical School, and Director, Center on Outcomes, Research & Education, Evanston Northwestern Healthcare in Evanston, Illinois. After graduating from Northwestern University with a B.S. in Psychology, he received a doctorate in clinical psychology from Loyola University of Chicago in 1984, and went on to training at The New York Hospital-Cornell Medical Center and Memorial Sloan-Kettering Cancer Center. From 1987-1997, Dr. Cella built a clinical service and research program at Rush-Presbyterian-St. Luke's Medical Center with an emphasis on quality of life and outcome evaluation in cancer treatment research. His move to Northwestern University and Evanston Northwestern Healthcare in 1997 brought the expansion of his research in quality of life of chronic illness into a broader study of outcomes in health care. Dr. Cella has several grants and contracts to study questions regarding quality of life measurement in clinical trials, cross-cultural equivalence of quality of life measurement, efficacy of psychosocial interventions in oncology, and medical outcomes research. He has numerous publications in the area of quality of life measurement, analysis and interpretation in clinical trials and clinical practice.

Multiple Test Procedures for Identifying the Minimum Effective and Maximum Safe Doses Simultaneously

Ajit C. Tamhane and Brent D. Logan
Northwestern University

The therapeutic window is a range of doses of a drug that are both effective and safe. Since generally the efficacy increases with the dose level while the safety decreases, determination of the therapeutic window reduces to the problem of finding the minimum effective and maximum safe doses (MINED and MAXSD) which is addressed in the present paper. A bivariate normal model is assumed for the efficacy and safety endpoints. The MINED is defined as the lowest dose that exceeds the mean efficacy of the zero dose

by a specified threshold. Similarly the MAXSD is defined as the highest dose that does not exceed the mean toxicity of the zero dose by a specified threshold.

Single-step and step-down multiple test procedures are proposed to identify the MINED and MAXSD. These procedures control the type I familywise error probability of declaring any ineffective dose as effective or any unsafe dose as safe at a preassigned level α. The critical points of the exact normal theory procedures depend on the unknown correlation coefficient between the efficacy and safety variables. This difficulty can be side-stepped by using the Bonferroni approximation to the exact critical points which amounts to treating the efficacy and safety testing as two separate families, each with type I familywise error control at level $\alpha/2$. This approximation is shown to be not very conservative. Another way to avoid this difficulty as well as to relax the assumption of bivariate normality is to use the bootstrap versions of the exact normal theory procedures. The various procedures (Bonferroni, normal theory, and bootstrap) are compared in a simulation study. A real data example is provided to illustrate the procedures.

Ajit Tamhane is professor of Industrial Engineering & Management Sciences and Statistics at Northwestern University. He is the coauthor of two well-known books: *Multiple Comparison Procedures* (with Yosef Hochberg) published by John Wiley in 1987 and *Statistics and Data Analysis: From Elementary to Intermediate* published by Prentice Hall in 1999 (with Dorothy Dunlop). He has published some sixty papers in the areas of multiple comparisons and testing, biomedical applications, ranking and selection procedures, design of experiments, chemometrics, and neural network modeling. He is also a past president of our Chapter.

Papadakis Nearest Neighbor Adjustment of Yield in Agricultural Field Testing

Radha G. Mohanty
Monsanto

Papadakis analysis, originally proposed by Papadakis (1937), belongs to a larger class of methodologies called the nearest neighbor analysis which is primarily based on the fact that plots in close proximity ("neighbors") are exposed to similar environmental conditions and therefore, for a given plot, information from its neighboring plots could be used for adjustment of its response for spatial variability. The basic theory behind the application of Papadakis methodology to field trials is relatively simple. It is based on an analysis of covariance where the covariate is an index of fertility (environment), and the response is some observable trait (e.g., grain yield), which is adjusted up or down to reflect the effect due to spatial variability. There have been several references in the literature to application of Papadakis methodology to field trials where the analysis is routinely carried out on data coming from a replicated design within a testing location. The application that is presented here is an exception to the rule in the sense that the analysis is conducted on multi-location data with single replication per location. In the plant breeding industry, a recent trend has been to move towards a single-rep testing system to maximize the coverage of the testing environments. Note that for a single replication test, no design such as a lattice can be used for adjustment of the observations for spatial variability. In this presentation, we start with describing the theory and methodology behind Papadakis analysis for multi-location data. Several practical problems such as impact of missing values on Papadakis covariate, choice of homogeneous vs. heterogeneous slope coefficient, and effect of influential observations, etc. are discussed and solutions are proposed. Finally, results from several validation studies on corn yield data, including comparison to lattice adjusted plot values and ANOVA on adjusted vs. unadjusted data, are presented to demonstrate the benefit from the adjustment procedure.

Radha G. Mohanty, Ph.D., is Research Statistician in Agricultural Field and Breeding Research division of Monsanto Company. He has more than eight years of professional experience in agricultural statistics, especially in the area of design and analysis of experiments for wide area crop testing. In his current position, he has provided extensive statistical guidance to research scientists of the company in both traditional plant breeding and genomics. Prior to his current position at Monsanto, he taught undergraduate classes at Northern Illinois University and University of Wisconsin-Milwaukee, and graduate level statistics classes in India at Utkal University. His areas of

expertise are time series, stochastic processes, spatial statistics, and geostatistics. In these disciplines, he has published in both national and foreign journals. He has served as an editorial collaborator in several journals including the Journal of Agricultural, Biological, and Environmental Statistics.

~Donna Kowalski

President's Report

Millennium Beginning. The NIC/ASA Chapter energetically entered the new millennium. Take a moment to review chapter events from the year 2000.

Our chapter continues its tradition of presenting timely statistical topics at our meetings. This year's programs covered cutting-edge ideas with a workshop on multiple imputation methods; overviews of health economics and non-linear mixed-effects models; plus presentations on analytical issues related to quality of life assessments and multiple statistical tests. The honor of Ed Vonesh's election to be an ASA Fellow, following his nomination by our Chapter, was particularly satisfying. That honor closely followed Ed's spring talk to our chapter that gave us an insider's view of his recent developments. Our Chapter keeps members up-to-date through this Statfax newsletter and our website. The three annual publications of Statfax are sent via email or regular mail and are also available on the Web. Our NIC/ASA website, linked to the ASA website, provides a convenient source of current information on chapter activities. Also look for a fall release of an updated NIC/ASA membership directory.

On the community front, the chapter expanded its activities. In addition to maintaining the Adopt-A-School program, this year our chapter sent science fair judges to give statistics awards at the state science fair, in addition to the regional fair. Another new venue took us into advanced placement (AP) high school statistics classes. NIC/ASA joined efforts with the Chicago chapter and the Consortium of AP statistics (CAPS) teachers to send statisticians talk to AP high school classes. Finally, this fall NIC/ASA will inaugurate its first workshop for AP statistics teachers, to give a "refresher" on a requested statistic topic.

Special thanks go to Donna Kowalski for putting together a great program this year and to Kathleen Feaheny for excellent meeting arrangements. We offer a fond farewell to Josephine Ribaudo as she leaves for England and thank her for serving as treasurer.

The many accomplishments of this chapter reflect the dedicated work of our members. Do you want to be part of the action? Just identify an activity and contact the committee chairperson in charge (check the list of officers and committee chairs in this issue). Thanks to voluntary efforts of our members, our chapter continues contributing to both our community and our profession.

~Dorothy Dunlop

Fall Meeting

The fall meeting will be held on October 26,2000, from 1:00pm to 4:30pm, at the Double Tree Guest Suites, 1400 Milwaukee Ave., Glenview, IL. (Telephone: 847.803.9800.) The luncheon menu will be announced later this month (September).

Awards and Recognition

On behalf of our chapter I nominated Dr. Ed Vonesh (from Baxter HealthcareCorp.), to be recognized as a Fellow of ASA. I am very pleased to announce that Ed was elected as a Fellow of ASA. This is a well-deserved recognition for Ed and also an honor for our Chapter. Ed is heavily engaged in developing statistical theory and pushing the frontier of its application. His journal publications, book, and lectures have contributed so much to our profession.

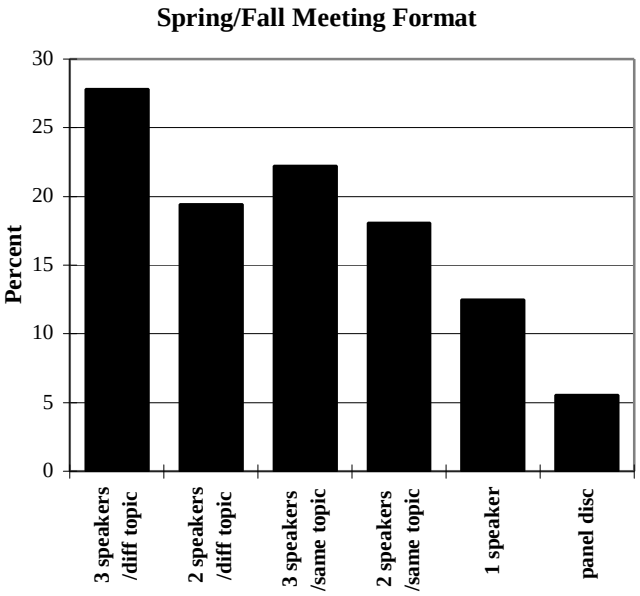
~Sam Hedayat

Summer 2000 Survey

Results of the NIC/ASA Summer 2000 Survey are in. The purpose of the survey was to provide information on our members' preferences, and ideas for future meeting topics, formats, and locations, as well as an evaluation of the 2000 Summer Workshop on Multiple Imputation for Missing Data presented by Dr. John Barnard. The number of members who completed the survey was 43.

Spring/Fall Meeting Format

Currently, the spring/fall meeting format is a luncheon followed by two or three speakers from the Chicago area. Results indicate that our members prefer that our

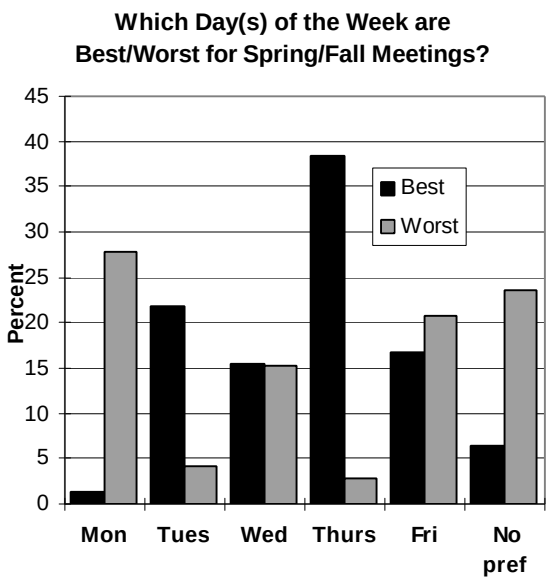


spring and fall meeting format consist of 3 speakers with a slightly higher percentage favoring the speakers presenting unrelated topics. However, the 2-speaker formats (either presenting related or unrelated topics) seem to be acceptable meeting formats as well.

Presently, our meetings are held on Thursdays. The following bar chart indicates which day(s) of the week are best/worst for Spring/Fall meetings. It definitely looks like our current layout is what most members prefer with the highest best-to-worst ratio. Tuesday is another option which we have done in the past. Mondays, Wednesdays and Fridays are obvious days we will try to stay away from to be sure to accommodate as many members as we can.

Spring/Fall Meeting Suggested Improvements

Some members had suggested ending the meetings earlier, perhaps at 3:30, to avoid traffic; and to possibly begin the meeting by preceding lunch with a talk. Other suggested improvements were geared toward meeting location. A preference toward more western suburbs was suggested. Ideas for new hotels are



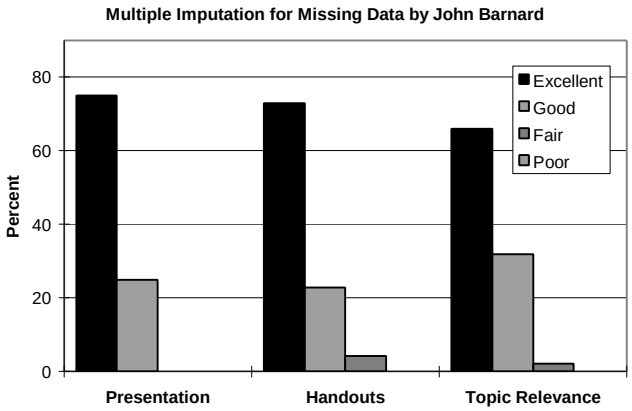
always welcome from our members. As a point of reference, a quick review of our database indicates that out of the approximately 340 members from the last 3 years, over 80% of our members reside in Cook or Lake counties. Of that approximate 80%, 37% came from Lake county and the remaining came from the following regions of Cook county: NE 26%, Chicago 21%, S 11%, and NW 5%,. The chapter also has 3% of its members coming from Wisconsin, <1% from Indiana, 10% from Dupage county, 2.5% from DeKalb county, and <1% each coming from Grundy, McHenry, Kane, and Will counties.

Suggested Topics for Spring/Fall Meetings

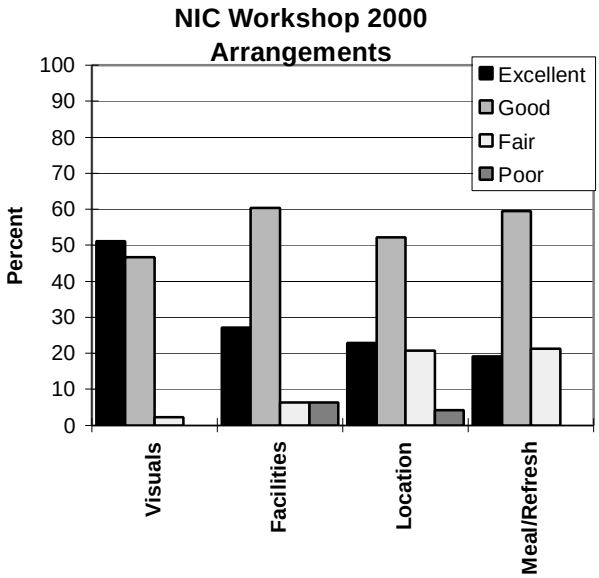
A list of the suggested topics for future spring/fall meetings is as follows: opinion research; surveys; probability; interim analysis; bioequivalence; PK; federal statistical guidelines; ethical/regulatory issues of clinical research; statistical issues in genomic data; statistical issues in drug discovery (high-throughput screening); structural equation modeling; and hierarchical linear modeling.

NIC Workshop 2000

The program and executive committees as well as the members of our chapter who were able to attend this year's summer workshop would like to thank Dr. John Barnard for an excellent presentation on Multiple Imputation for Missing Data. An evaluation of the workshop is displayed in the following charts.



These charts indicate that Dr. Barnard's presentation was a "hit"! However, although the arrangements were in general good, some dissatisfaction with the facilities, its location and the meal was expressed.



Summer Workshop Suggested Improvements

Some very nice ideas for suggested improvements for future workshops were: make the presentation more interactive versus lecture format; have presenters create a crib sheet of acronyms; have good examples and many, many graphs; outlaw slides in fine print; and ask the speaker to stimulate discussion.

Suggested Topics for Future Workshops

Suggested topics for future workshops were: stratified analysis; nonparametrics; statistical genetics; development/validation of surveys; and Bayesian methods in clinical trials.

We thank everyone who completed the survey. Our chapter is as good as our members and we find it pertinent to obtain your feedback in order to continue providing quality programs. Thanks again.

~ Donna Kowalski

Treasurer's Report **(July 31, 2000)**

BALANCE 1/1/2000	**$ 4824.33**
INCOME	
2000 Spring Meeting/Memberships	$1753.00
2000 Summer Workshop/Memberships*	$7803.00
1999 Fall Meeting/Memberships	$51.00
Donations	$11.00
Advance Payments for 2001 Membership	$30.00
Bank Interest	$79.87
Total Income	$ 9727.87
EXPENSES	
2000 Spring Meeting	$2061.97
2000 Summer Workshop	$6735.08
U.S. Savings Bonds (2000 Spring Meeting)	$300.00
Total Expenses	$ 9097.05
BALANCE 7/31/2000	**$ 5706.80**

2000 Membership: 154 (142 regular, 12 students)
2001 Membership (prepaid during 2000): 6

* Except an additional $175 for meeting/membership fees which is yet to be received. Figures reported must be adjusted by this amount to obtain actual income and actual overall bank balance.

~Josephine Ribaudo

NIC-ASA Executive Committee Meeting Summary

Workshop Attendance/Chapter Membership

Linda Odom reported that 121 people registered for the workshop. Chapter membership totals 143. In preparation for releasing a new membership directory, a member information survey was distributed to workshop attendees. She was pleased to note that the response rate was 88%. (Editor's note: Shouldn't we expect a 100% response rate from statisticians? We hope that John Barnard will help us impute data for the 12% who didn't respond!)

Program Committee

Donna Kowalski was congratulated on the excellent speaker and topic (John Barnard, Missing Data Imputation) for the summer workshop. The Executive Committee eagerly anticipates the fall meeting, which will feature David Cella, Ajit Tamhane and Radha Mohanty.

Awards and Recognition

The Executive Committee extends its congratulations to chapter member Ed Vonesh, who was selected as an ASA fellow. Many thanks go out to Sam Hedayat, who was instrumental in facilitating the application process.

Community Activities/Outreach

Dorothy Dunlop reported that a new chapter outreach activity got off to an excellent start this year. Three chapter members gave talks to area high school advanced placement statistics classes regarding their careers in statistics. The talks were well received and Dorothy hopes more chapter members will volunteer for this activity in the coming year.

Chapter member Glenn Gabanski, AP statistics teacher at Oak Park-River Forest High School, is on the national ASA membership committee. The chapter anticipates an expansion in its membership because of Glenn's involvement with the national membership committee.

Requests to Advertise Employment Vacancies

Because of several recent requests for the Chapter to advertise statistical job openings, the Executive Committee has decided to implement the following policy. Because the newsletter is distributed infrequently, job vacancies will not be listed in the newsletter. The Chapter will provide free advertising through e-mail broadcast and on the chapter's web site to current chapter members who wish to advertise a position in the Greater Chicago area for a specific company. A fee schedule will be adopted for job postings requested by non-members, for jobs outside the greater Chicago area, and for those being advertised by recruitment firms.

Chapter Web Site

Phil Pichotta mentioned that several people indicated on the volunteer survey distributed at the summer workshop, that they would be willing to serve as web master for the chapter web site.

Chapter Officer Elections

The fall meeting will include nomination and election of officers for the coming year. Following the long established Chicago tradition, the Executive Committee asks that chapter members attend the meetings to vote early and often.

~Domenic Reda

Nominations for Chapter Officers

At the business portion of the October 26, 2000 Chapter meeting, we will elect officers for the 2001 calendar year (January 1 - December 31, 2001). The slate of officers is as follows:

Domenic J. Reda for President-Elect

Peggy Olson for Secretary

Harold Frush for Treasurer

Background information about the candidates for election are listed below.

President-Elect

Domenic J. Reda, M.S. is the Associate Director for the Hines VA Cooperative Studies Program Coordinating Center. He has been involved in the design and conduct of multi-center randomized clinical trials and epidemiologic investigations for nearly 20 years and is a Ph.D. candidate in biostatistics at the University of Illinois at Chicago School of Public Health. He completed his M.S. in applied statistics at Purdue University and his B.S. in mathematics and computer science at the University of Illinois at Chicago. He has published widely in medical journals, including four papers in the *New England Journal of Medicine* and three in the *Journal of the American Medical Association.* He currently serves on two data safety monitoring boards and is a faculty member for two courses designed to train clinical investigators in the design and conduct of clinical research. He is currently the Secretary of the Northeastern Illinois Chapter.

Secretary

Peggy Olson is a statistician in the Pharmaceutical Products Division at Abbott Laboratories. She received her M.S. in statistics from North Carolina State University and has been at Abbott Laboratories for 6 years. She currently supports all phases of clinical development of urological drugs.

Treasurer

Harold Frush is a Senior Biostatistician in the Diagnostic Division of Abbott Laboratories. His current responsibilities include project and product support of new technologies, instrument systems, and blood bank systems. He has participated in the development of diagnostic products for the last 25 years. During the six plus years prior to that he supported R/D and clinical efforts in the Pharmaceutical Division of Abbott Laboratories and International Medical. His pet project is the use of the scientific and statistical methods in problem solving. His most interesting project thus far has been a search for the disease that was associated with a particular virus. Harold received his B.S. in Pre-Medicine and M.S. in statistics from West Virginia University.

~Phil Pichotta

Chapter Webpage

Don't forget to visit our Chapter web page at http://homepage.interaccess.com/~mlcarn/nic.htm. The page can also be accessed by following links found on the main ASA webpage (www.amstat.org.) Select *ASA Directories*, then *Chapters*, and then click on *Northeastern Illlinois.*

The Chapter webpage has information about Chapter events, links to current and past program information and newsletters, an updated list of Chapter officers, and a membership directory. Many thanks to Phil Pichotta and Mike Carniello for maintaining and updating our Chapter web page!

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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.

Northeastern Illinois Chapter, ASA
c/o Linda C. Odom, Membership Chair
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