
16th Annual Summer Workshop Meeting Notice

Northeastern Illinois Chapter
American Statistical Association

One-Day Short Course on Multiple Imputation for Missing Data Presented by Dr. John Barnard, Dept. of Statistics, Harvard University

DATE: Thursday, June 22, 2000, 8:30am – 4:30pm.

LOCATION: Radisson Hotel and Conference Center, 2875 N. Milwaukee Ave., Northbrook, IL 60062. TEL: 847-298-2525

RESERVATIONS: Advance reservations are required and must be received by 4 p.m., Thursday, June 15. Cancellations can not be accepted after the above date, and "no shows" will be billed.

ATTIRE: Business Casual ☺

FEES:	Registration Rec'd: By June 8		Registration Rec'd: After June 8		Student	
	Member	Non- Member	Member	Non- Member	Member	Non- Member
Regular	\$65.00	\$70.00	\$75.00	\$80.00	\$6.00	\$7.00

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

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

Josephine Ribaudo
1000 Central Street
Suite 101
Evanston, IL 60201
jribaudo@enh.org
(847) 570-1736
Fax: (847) 733-5195

PROGRAM:	8:30am—9:00am	Registration and Sign-In
	9:00am—12:00pm	Presentation
	12:00pm—1:00pm	Lunch (Chicken Picatta with Garden Salad)
	1:00pm—1:10pm	Business Meeting
	1:10pm—4:30pm	Presentation

NORTHEASTERN ILLINOIS CHAPTER MEETING REGISTRATION

Name _____

Name for meeting badge (if different) _____

Department _____

Company _____

Street _____

City/State/Zip _____

Phone (____) _____

E-mail address _____

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

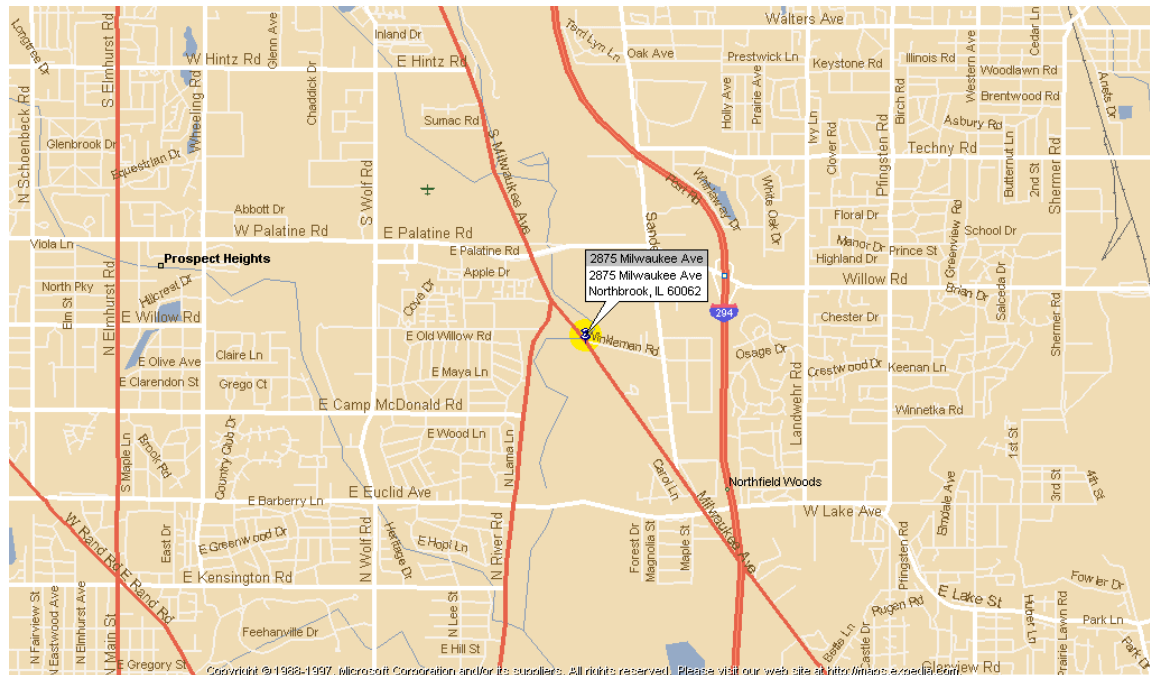
DIRECTIONS TO THE MEETING

From O'Hare airport: Follow signs "To Chicago". Exit at I-294 Tri-State Tollway NORTH (To Wisconsin). Pay \$0.50 toll. Exit at Willow Rd WEST to Milwaukee Ave. Exit right for Milwaukee Ave (Rt 21) and at traffic light, turn left onto Milwaukee Ave. Go about 1/2 mile and stay LEFT at the Y intersection with traffic light (stay on Rt 21) and go 1/4 mile. Hotel is on the left at the intersection of Winkelman Rd (Close to the Northbrook Hilton where Fall 1999 Meeting was held).

From Downtown Chicago: Take I-90 West (Kennedy Expressway) to I-294 Tri-State Tollway NORTH (To Wisconsin). Pay \$0.50 toll. Exit at Willow Rd WEST to Milwaukee Ave. Exit right for Milwaukee Ave (Rt 21) and at traffic light, turn left onto Milwaukee Ave. Go about 1/2 mile and stay LEFT at the Y intersection with traffic light (stay on Rt 21) and go 1/4 mile. Hotel is on the left at the intersection of Winkelman Rd (Close to the Northbrook Hilton where Fall 1999 Meeting was held).

From West: Take I-90 East to I-294 Tri-State Tollway NORTH (To Wisconsin). Pay \$0.50 toll. Exit at Willow Rd WEST to Milwaukee Ave. Exit right for Milwaukee Ave (Rt 21) and at traffic light, turn left onto Milwaukee Ave. Go about 1/2 mile and stay LEFT at the Y intersection with traffic light (stay on Rt 21) and go 1/4 mile. Hotel is on the left at the intersection of Winkelman Rd (Close to the Northbrook Hilton where Fall 1999 Meeting was held).

From Milwaukee and North: Take I-94 Tri-State Tollway EAST/SOUTH to I-294 Tri-State Tollway EAST/SOUTH (to Indiana). Exit at Willow Rd WEST (Pay \$.50 toll - exact change) to Milwaukee Ave. Exit right for Milwaukee Ave (Rt 21) and at traffic light, turn left onto Milwaukee Ave. Go about 1/2 mile and stay LEFT at the Y intersection with traffic light (stay on Rt 21) and go 1/4 mile. Hotel is on the left at the intersection of Winkelman Rd (Close to the Northbrook Hilton where Fall 1999 Meeting was held).





Statfax



Volume 15, Issue 2

Northeastern Illinois Chapter of the American Statistical Association

Summer 2000

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One-Day Short Course on Multiple Imputation for Missing Data

*Presented by Dr. John Barnard
Department of Statistics, Harvard University*

Multiple imputation (MI) replaces each missing value by a set of plausible values (for example, five values) that represent the uncertainty about the right value to impute (i.e., fill in). Special software is needed to create multiple imputations in large data sets, but such software is now available. Multiply-imputed data sets are analyzed using (1) standard complete-data software (just as if there were no missing values) and (2) simple general-purpose macros that combine the results of complete-data analyses in essentially the same way, no matter which complete-data analysis is used. This process results in valid statistical inferences that properly reflect the loss of information due to the missing values: consistent estimates, valid p-values, and valid confidence intervals.

The first part of the course will show how ad hoc methods of analysis, such as complete-cases, available cases, mean imputation, regression imputation, and last value carried forward fail, even in very simple cases, to give consistent estimates, valid p-values, or valid confidence intervals. The second half of the morning lecture will explain multiple imputation and why it produces valid statistical answers. This lecture will also provide examples, including one where the data were made missing by "skeptics" in ways unknown to the "MI team"--the missing data were then multiply imputed by the MI team. The

result, as confirmed by the skeptics, was valid inference for questions posed by the skeptics.

The afternoon lecture will focus on software for creating and for analyzing a multiply-imputed data set. Several computer packages, both commercial and free-ware, that have been developed for creating imputations will be discussed, demonstrated, and available for use. The remainder of the afternoon will involve applications of some of the software packages to real problems with emphasis on those related to clinical trials.

Biographical Sketch

Dr. John Barnard received a B.S. in Statistics and Biometry from Cornell University in 1990 and a Ph.D. in Statistics from the University of Chicago in 1995. His Ph.D. focused on extensions to the standard multiple imputation combining rules. He joined the Harvard Statistics Department as an Assistant Professor in 1995. He has given numerous courses on multiple imputation and missing data, many in conjunction with Donald B. Rubin, and has published several papers on missing data theory and applications.

PRESIDENT'S REPORT

A Statistically Practical Impact. We all know that it is possible to find differences that are statistically significant but are too small to be practically relevant. Our chapter has a great opportunity to make a *statistically practical* impact on the future by offering support to high school classes teaching Advance Placement (AP) statistics. Specifically, high school teachers around the Chicago area want to invite statisticians to talk to their classes during the month of May. Why May? AP statistics material is covered at a rigorous pace until early May when students take their AP exams. Once exams are

over, there is time to look beyond academics. Chicago area high school AP statistics teachers want professionals to talk about the importance of statistics in their work. This is a fantastic opportunity to spark interest towards a career in statistics. Our chapter is looking for volunteers who are willing to give about a 30-minute talk in a local classroom. Talks could be about your career, an interesting project, or a useful application related to statistics. The NIC-ASA Community Activities committee is compiling a list, by county (e.g. Lake, McHenry, etc.), of people that teachers can invite. Please contact Carole Bernett directly if you are willing to be included on this list (cbernett@harper.cc.il.us). This is an opportunity to make a *statistically significant* investment for valuable future returns

NIC-ASA Webmaster needed. If you are a computer-savvy person, you can directly help our chapter. We are looking for a webmaster to take over and maintain our NIC-ASA chapter webpage. The Webmaster is a member of the NIC-ASA board, so this is a great opportunity to become actively involved in our chapter. See the webmaster article in this newsletter for an overview of this position. If you are interested, please contact our current webmaster, Phil Pichotta (philip.pichotta@abbott.com).

~ Dorothy Dunlop

SUMMER WORKSHOP

We will be having our summer workshop at the Radisson Hotel and Conference Center, 2875 N. Milwaukee Ave., Northbrook, IL 60062. The hotel phone number is 847-298-2525.

We will have continental breakfast and lunch. Lunch will be a garden salad, entrée of chicken piccata (boneless breast of chicken marinated in white wine and fresh herbs served with lemon caper sauce), and vanilla bean ice cream for dessert.

~ Kathy Feaheny

COMMUNITY ACTIVITIES REPORT

We once again participated in the Region 6 Science Fair on March 4th held at Niles North High School. This year we awarded bonds to four students whose projects made the best uses of Statistics. The winners of this year's bonds are: First place senior award to Yelena Konanova of Niles North High School; first place junior high award to Daniel Goldfein of Lincoln Hall Middle; and second place awards to Kara Perelen and Lauren Perzov, both also from Lincoln Hall Middle. All of these students performed some sort of statistical testing and were able to clearly relate their findings and procedures to us.

Our chapter wants to acknowledge the dedicated work of Mr. and Mrs. Ken Priban, science and math teachers at Lincoln Hall, for encouraging their students to pursue the use of statistics in their projects. These teachers hold after school sessions for students interested in learning fundamental concepts in hypothesis testing. Students attend these classes on a volunteer basis. It is so gratifying to see our young ones so eager to relate and explain p-values and alpha levels and actually know what they mean. We encourage anyone interested in seeing these young scientists in action to join us next year. We need more judges from our chapter and it is a rewarding experience. The fair is usually held the first Saturday in March. Our Chapter wishes these four students the best of luck as they head downstate for State Competition in May.

Our Community Activities group is also interested in working with high school AP teachers by sending volunteer speakers to interested high school AP classes. Glenn Gabanski, AP statistics teacher at Oak Park-River Forest High School, has been our liaison, and we have now joined forces with the Chicago Chapter of ASA to put together a list of speakers to circulate among the AP teachers. We hope to be able to visit a few classes this May. We are also hoping to set up a half-day workshop for interested teachers in the fall. We are excited and hope the program is so successful that many of you will also want to participate. If anyone is interested in joining us in this venture, please don't hesitate to call or e-mail me (cbernett@harper.cc.il.us.)

~ Carole Bernett and Paul Coe

NIC-ASA WEBMASTER WANTED

Here is an opportunity for a computer-savvy NIC-ASA member to help our chapter. A short description of the duties of the NIC-ASA Chapter webmaster follows. Updating the NIC-ASA website only requires a few hours three times a year. If you would like to volunteer or want more information, please contact our current webmaster, Phil Pichotta (847-937-3708, philip.pichotta@abbott.com).

You need a computer with a web browser and either a webpage editor or a file editor (e.g., Word) with knowledge of HTML tags. Most of the WebPages can be copied and modified from previous WebPages. Create a webpage with a text editor, and then view the file by opening it with a web browser. If you go to the NIC-ASA website, you can view the HTML code by clicking on the toolbar View and then Source. When the WebPages are ready, they are emailed to Mike Carniello who loads them onto the

NIC-ASA website. After loading, review the pages to confirm that the links work and scan for errors.

SAS is needed in order to prepare the on-line membership list. The treasurer provides a .csv file (flat file outputted from Microsoft Excel). A SAS program creates the membership list formatted as a webpage.

Each issue of STATFAX (3/year) needs to be converted from a Microsoft Word file into a .pdf file using Adobe Acrobat. Usually there is someone in the organization who has Adobe Acrobat and Microsoft Word who can easily convert a Word file to .pdf (simply click an icon when the document is open in Word).

CALL FOR NOMINATIONS

The Nominations Committee of the NIC-ASA is soliciting nominations for officers to serve in 2001. The election of these officers will be held at our Fall 2000 meeting, which is scheduled for Thursday, October 26, 2000. Chapter officers must be a Chapter member and must be a full member of the ASA. A brief description of the primary duties of the offices is given below:

President-Elect – The President-Elect has the responsibility to act as President if the current President is unable or resigns. The most important function is to act as Chair of the Program Committee which organizes the program for the Spring and Fall meetings and the Summer Workshop for that year. The following year, the President-Elect automatically becomes the President and the year after that the Past President.

Secretary – The Secretary's primary function is to write and maintain minutes of general meetings and of the Executive Committee. Be custodian of records. Write articles about chapter activities for ASA (e.g., AMSTAT News and LINK).

Treasurer – The Treasurer's primary function is to receive and disburse funds for the Chapter and to provide reports of the financial status of the chapter. The primary effort (biggest job) is to collect the dues and fees for the Chapter Meetings and Summer Workshop and to prepare receipts for these funds.

The **Chapter Bylaws** (<http://homepage.interaccess.com/~mlcarn/nicbylaw.htm>) provide a full listing of the duties of each chapter officer if additional information is needed.

Anyone interested in being nominated or who would like to nominate someone else should contact Phil Pichotta (philip.pichotta@abbott.com or 847-937-3708).

If members would like to volunteer to serve the Chapter in other ways, please contact an officer to discuss how you could be of service.

~ Phil Pichotta

CHAPTER WEBPAGE

Please join us on the net at our Chapter webpage 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 Illinois*.

Phil Pichotta recently updated the Chapter webpage which includes information about Chapter events, including the upcoming summer workshop, as well as links to current and past program information and newsletters. We also have contact information for Chapter officers and a membership directory. Many thanks to Phil Pichotta and Mike Carniello for maintaining and updating our Chapter webpage!

OFFICERS AND COMMITTEE CHAIRS

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Statfax is published three times a year in 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.

Northeastern Illinois Chapter, ASA
c/o Linda C. Odom, Membership Chair
CORE / Evanston Northwestern Healthcare
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Evanston, IL 60201
