MidWest SAS® Users Group

MWSUG 2006
Detroit, Michigan
Oct 22-24

Annual
Conference
Registration
Information

All Roads Lead to the Motor City! C'mon, Get your SAS® in Gear!

See you there!

MWSUG 17
MidWest SAS® Users Group Conference
October 22-24, 2006
Dearborn Inn

You are invited to **GET YOUR SAS IN GEAR** at the 17th Annual Conference of the MidWest SAS Users Group!

Our annual meeting gives you an unparalleled opportunity to learn about SAS Software capabilities from leading experts whose presentations offer something for attendees at all experience levels. MWSUG 17 continues our annual tradition of offering a cost-effective way to enhance your skills as a SAS professional through an intensive series of paper presentations, workshops, and optional pre- and post-conference training seminars.

MWSUG 17 begins with our Opening Session on Sunday evening, October 22. The Keynote Speaker is Rick Langston, manager of the Core Systems Department, with a topic of "Version 9, Onward and Upward". The Opening Session is followed by the Opening Night Reception. You will have a chance to meet fellow conference attendees, speakers and SAS Institute representatives in a relaxed and casual setting.

Starting on Monday morning and continuing until closing session late Tuesday afternoon, you will have your choice of more than 50 presentations to attend. These range from beginning tutorials to discussions of advanced SAS System capabilities. As you will see from the abstracts in this booklet, our roster of paper presentations offers learning opportunities for conference attendees at all experience levels and in all industry, academic, and scientific specializations, to gain additional skills and insights into the SAS System and what it can do for them. Once again, this year at MWSUG we will have the Virtual Learning Center, where Destiny Corporation has put their instructor-led course materials into a Virtual Learning Environment. Attendees will be able to attend courses and select from over 300 SAS topics.

You can enhance your MWSUG 17 experience by attending the pre- and post-conference training sessions. We've selected an internationally recognized panel of SAS experts to present full and half-day training seminars on a wide range of SAS System capabilities.

You'll also have a chance to see the latest in SAS products, services and publications by visiting the Exhibit and Demo Room, which will be open throughout the conference and staffed by SAS employees eager to share the newest aspects of the SAS System with you.

On Monday night, we are offering you the special opportunity to ride a shuttle to the Greektown section of Detroit, where you can dine on Greek food and other culinary offerings at a variety of restaurants, and put your knowledge of probability theory to work at the Greektown Casino. This is an excellent chance to network with fellow conference attendees.

We're very excited to present this array of events for SAS Software users during the MWSUG 17 conference in Dearborn. Additional information, and on-line registration, is available at www.mwsug.org/det2006. Please let us know if you have any questions or if we can be of assistance.

See you in Dearborn!

Nancy Brucken and Paul Slagle
Conference Co-Chairs

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Local User Groups

SAS Institute maintains a list of local user groups in the MidWest region on the SAS Institute Web site: http://www.sas.com/usergroups/namerica/mwsug.hsql. In-house groups are not included here. If we have missed an active local group, please send a message to an MWSUG board member with the appropriate contact information.

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SPECIAL EVENTS FOR MWSUG 17

EXPLORE GREEKTOWN

Monday evening is traditionally social activity time at MWSUG. This year is no different, except we are adding our own Detroit attitude to it. This year, we are planning a visit to the Greektown section of Detroit Buses will pick you up in front of the Dearborn Inn after the SAS Mixer and will run at regular intervals throughout the evening. Once in Greektown, you can eat dinner at a variety of restaurants, and try your luck at the Greektown Casino. This is a great opportunity to explore the city and network with colleagues!

See **http://www.fodors.com/miniguides/mgresults.cfm?destination=detroit@58&cur_section=sig&property_id=106405** for more information on Greektown and its attractions. See **www.greektowncasino.net** for more information on the casino.
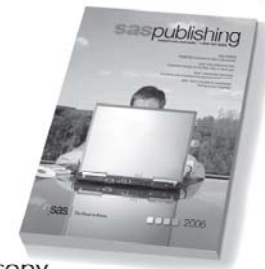
Please note that this event (including transportation to and from) is free with conference registration!

OTHER AREA ATTRACTIONS

The Henry Ford

The Henry Ford is the history destination that brings the American Experience to life. With a rich and diverse offering of exhibits, demonstrations, programs and reenactments, The Henry Ford celebrates yesterday's traditions as well as today's innovations. The distinct attractions at The Henry Ford captivate and inspire visitors of all ages.

Spread over more than 90-acres, Greenfield Village comes alive with the unforgettable sights, sounds and settings of America's past.

Housing one of the largest collections of its kind ever assembled, Henry Ford Museum showcases the people and ideas that have fired our imaginations and changed our lives.

At the site where automobile manufacturing as we know it came of age — and continues to define the state-of-the-art today — the Ford Rouge Factory Tour is a firsthand journey into the genius of American manufacturing.

And on the bigger-than-big screen, The Henry Ford IMAX Theater presents current releases, cinema classics and feature-length documentaries that showcase American popular culture and the American experience in superb, sense-surrounding detail.
Encounter ideas that change the world, travel through America's past, embark on America's greatest factory tour and more. It all comes together at The Henry Ford, America's greatest history attraction.

Henry Ford Estate (Fair Lane)

A stately self-contained enclave of privacy and natural beauty, tucked away on 1300 acres of rambling Dearborn farmland, Fair Lane stands today as a true reflection of Clara and Henry Ford's interests and ideals.

Automotive Hall of Fame

The Automotive Hall of Fame is both a visitor attraction and an educational resource for inspiring others to higher levels of achievement in their own work and lives. Visitors will experience automotive history through visual and interactive exhibits, automobiles and authentic artifacts.

Fairlane Town Center

Fairlane Town Center, known for its fashion-forward merchandise and depth of retailers, attracts more than 10 million customers annually. The center features a dominant mix of department stores and Michigan's largest selection of leading specialty retailers.

2006 Conference Schedule at a Glance

Pre-Conference Training

Thursday, October 19	8:00 a.m. – 5:00 p.m.
Friday, October 20	8:00 a.m. – 5:00 p.m.
Saturday, October 21	8:00 a.m. – 5:00 p.m.
Sunday, October 22	8:00 a.m. – 5:00 p.m.

Sunday, October 22

3:00 p.m. – 6:00 p.m.	Registration, Information Desk, and Virtual Learning Center Open
5:00 p.m. – 5:30 p.m.	Speaker and Volunteer Meeting
5:30 p.m. – 6:00 p.m.	First Timers Session
7:00 p.m. – 8:00 p.m.	Opening Ceremony Keynote Address
8:00 p.m. – 10:00 p.m.	Reception

Monday, October 23

7:30 a.m. – 11:30 a.m.	Registration, Information Desk, and Virtual Learning Center Open
7:30 a.m. – 8:30 a.m.	Breakfast Open
8:00 a.m. – 11:30 a.m.	Speaker Presentations and Hands-on Workshops
9:00 a.m. – 11:30 a.m.	SAS Demo Area and Vendor Displays Open
11:30 a.m. – 1:00 p.m.	Lunch at the Dearborn Inn
1:00 p.m. – 4:00 p.m.	Registration & Information Desk Open
1:00 p.m. – 5:00 p.m.	Speaker Presentations and Hands-on Workshops
1:00 p.m. – 6:30 p.m.	SAS Demo Area/Vendor Displays Open
5:00 p.m. – 6:30 p.m.	SAS Reception/Mixer
6:30 p.m. – 10:30 p.m.	Greektown shuttle running (exact times TBD)

Tuesday, October 24

7:30 a.m. – 11:30 a.m.	Registration, Information Desk, and Virtual Learning Center Open
7:30 a.m. – 8:30 a.m.	Breakfast Open
8:00 a.m. – 11:30 a.m.	Speaker Presentations and Hands-on Workshops
9:00 a.m. – 1:00 p.m.	SAS Demo Area/Vendor Displays Open
11:30 a.m. – 12:30 p.m.	Lunch at the Dearborn Inn
12:30 p.m. – 3:00 p.m.	Registration & Information Desk Open
12:30 p.m. – 4:00 p.m.	Speaker Presentations and Hands-on Workshops
4:00 p.m. – 5:00 p.m.	Closing Ceremony

Post-Conference Training

Wednesday, October 25	8:00 a.m. – 5:00 p.m.
Thursday, October 26	8:00 a.m. – 5:00 p.m.

2006 Pre- and Post-Conference Training Courses

All courses include course notes. See page 9 for instructor biographies.

| ID #06 | DATE: | Thursday - 1019/2006 | TIME: | 8:00 AM – 5:00 PM | Full Day |

Introduction to SAS, Part I

SAS is one of the most popular data management languages available on computers today. It provides statistical analysis but is also a good system for normal programming applications. This introductory course is designed for people who would like to use SAS for basic reporting, charting, and data summarization as well as utility or "one-shot" applications. This one day course covers the data step.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

| ID #07 | DATE: | Thursday - 10/19/2006 | TIME: | 8:00 AM – 5:00 PM | Full Day |

Using SAS/ACCESS with Relational Databases

Relational databases are getting more popular all the time, and with Version 9 of SAS, accessing those databases is simpler than ever before. This course demonstrates that ways that SAS users can retrieve data from popular relational databases such as DB/2, Oracle, and Microsoft Access among others.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

| ID #08 | DATE: | Friday – 10/20/2006 | TIME: | 8:00 AM – 5:00 PM | Full Day |

Introduction to SAS, Part II

SAS is one of the most popular data management languages available on computers today. It provides statistical analysis but is also a good system for normal programming applications. This introductory course is designed for people who would like to use SAS for basic reporting, charting, and data summarization as well as utility or "one-shot" applications. This one day course covers the SAS procedures.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

| ID #09 | DATE: | Friday – 10/20/2006 | TIME: | 8:00 AM – 5:00 PM | Full Day |

What's New in Version 9

This course is designed to familiarize students with SAS version 9. The course covers multi-threaded parallel processing, new SAS functions, enhancements to base SAS procedures, Version 8 compatibility, Perl regular expressions, and the new SAS libname engines to Access and Excel.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

ID #10A	DATE:	Saturday – 10/21/2006	TIME:	8:00 AM – Noon	Half Day

Introduction to Java for SAS Programmers, Part I

Java is one of the hottest programming languages around and promises to be even more exciting as the SAS System migrates away from its proprietary SCL language to the standards-based Java language. Today, SAS programmers can take advantage of Java applications – both client and server-side - for exploiting SAS data and analytic services. This course is designed for SAS programmers who want to understand not only the fundamentals, but also its importance, uses, strengths and weaknesses.

Part I:

In the first part, we will lay the groundwork for Java by writing practical programs that build on some fundamental concepts. Here, participants will learn the basics of the Java language and how it relates to OO programming and the Object Model. This course has been carefully designed with SAS programmers in mind and should provide a framework for further study for those wishing to move on to professional Java programming environments.

Instructor: Greg Nelson, Thotwave Technology

ID #10B	DATE:	Saturday – 10/21/2006	TIME:	1:00 PM – 5:00 PM	Half Day

Developing Java Applications, Part II

Java is one of the hottest programming languages around and promises to be even more exciting as the SAS System migrates away from its proprietary SCL language to the standards-based Java language. Today, SAS programmers can take advantage of Java applications – both client and server-side - for exploiting SAS data and analytic services. This course is designed for SAS programmers who want to understand not only the fundamentals, but also its importance, uses, strengths and weaknesses.

Part II:

This is the second of a two-part course in Java for SAS Programmers. In this section, participants will apply what they learned about the Java language, Object Oriented Programming and Web technologies to actually design and build a functional application using AppDev Studio (SAS' Development environment for Java applications). Here, we will develop a series of reusable objects that can be used to access SAS datasets, submit SAS programs, display results in both graphical and textual formats and even create a data entry screen using WebAF. In addition, some attention will be given to issues of security and architectures and choices of technologies when implementing Java applications.

Instructor: Greg Nelson, Thotwave Technology

ID #11A	DATE:	Saturday – 10/21/2006	TIME:	8:00 AM – Noon	Half Day

The Nitty-Gritty of PROC REPORT

One of the most powerful PROCs in SAS is PROC REPORT. Just this one procedure does the yeoman's work of PROC PRINT, SORT, FREQ, MEANS, and TABULATE, and PUT-Statement Formatting (DATA _NULL_) combined. This seminar is for anyone interested in getting started with PROC REPORT. Through examples, it completely examines how to produce listings through the PRINT, SORT and DATA _NULL_ aspects of PROC REPORT. It also provides an introduction into the FREQ, MEANS and TABULATE aspects of PROC REPORT. The workshop briefly looks at ODS, but suggests an alternative way to create DOC files.
Come experience what PROC REPORT can do for your SAS programming.

Instructor: Mal Foley

ID #11B	DATE:	Saturday – 10/21/2006	TIME:	1:00 PM – 5:00 PM	Half Day

Merging, Combining, and Subsetting SAS Datasets

This seminar discusses over 30 common errors in merging, combining, or otherwise manipulating data. All of these errors result in erroneous data. Most of them occur with no SAS message or warning! In addition to examining errors, this covers a wide range of topics such as interleaving, subsetting, concatenations, the IN= data set option, BY groups, FIRST.variable, program data vectors (PDV), finding duplicate records, collapsing files, overlapping variables, random access, Cartesian products, one-to-one merges, match merges, and fuzzy merges. The workshop starts with the basics and continues to build up to complex and tricky examples of data set manipulation. The only prerequisite for the course is a working knowledge of the SAS DATA Step.

Instructor: Mal Foley

ID #12	DATE:	Saturday – 10/21/2006	TIME:	8:00 AM – 5:00 PM	Full Day

Basic Statistical Concepts

A basic idea is that much of the logic of statistics is very understandable ….if the material is presented using examples that are familiar to the student. This allows the student to bring their life experience to bear on understanding the material. Examples used are of common processes and generally make fun of the instructor. Animations allow the material to be presented in pictures, as well as formulas and words. Material is presented in such a way that all the different student learning styles are engaged and learning is faster.   Topics covered include hypothesis testing, one way and two way analysis of variance, interactions, regression, and Fisher's exact and CMH tests.

Instructor: Russ Lavery

ID #13A	DATE:	Saturday – 10/21/2006	TIME:	8:00 AM – Noon	Half Day

Output Delivery System Tips and Techniques

Are you looking for ways to improve the way your SAS® output appears? Output Delivery System *(ODS)* can help turn tired-looking output into great looking information with a purpose. ODS introduces exciting new features for your output. Gone are the days when the only available formatting choice are boring output listings containing lifeless monospace fonts. Using built-in format engines, ODS provides SAS users with a powerhouse of new and exciting capabilities to produce "quality" and publishable output. This presentation will show users how to select only the output of interest using selection lists. Users will then see how ODS is used to send selected output to open output destinations including RTF, MS Excel spreadsheets, PDF, HTML, SAS data sets, XML, as well as traditional output.

Instructor: Kirk Paul Lafler, Software Intelligence Corporation

ID #13B	DATE:	Saturday – 10/21/2006	TIME:	1:00 PM – 5:00 PM	Half Day

SAS ® Macro Programming Tips and Tricks

The SAS® Macro Language is a powerful tool for extending the capabilities of the SAS System. This seminar presents numerous tips and tricks in the construction of effective macros through the demonstration of a collection of proven Macro Language coding techniques. Attendees learn how to process statements containing macros; replace text strings with macro variables; generate SAS code using macros; combine macro variable references with text; manipulate macro variable values with macro functions; compile and execute a compiled macro; handle global and local variables; construct arithmetic and logical expressions; use macro quoting functions; interface the macro language with other languages including the DATA step and SQL procedure; store and reuse macros; troubleshoot and debug macros; and develop efficient and portable macro language code.

Instructor: Kirk Paul Lafler, Software Intelligence Corporation

ID #14A	DATE:	Sunday – 10/22/2006	TIME:	8:00 AM – Noon	Half Day

Intermediate ODS: Formatting ODS Output

ODS – or the Output Delivery System – was a major milestone in the development of SAS. With ODS, we now have the ability to programmatically control the content, structure and format of how SAS renders content from any Procedure and Data Step. Most uses of ODS have centered on its ability to take structured output from SAS – normally thought of as the SAS listing – and redirect it to other formats such as HTML, PDF, and RTF. This course is designed for SAS programmers who want to understand not only the fundamentals, but also expand on ODS' importance, uses, strengths and learn how to exploit ODS for managing complex content.

In the first part, we will lay the groundwork for ODS by summarizing the ways that ODS can be used to generate output, what options are available as output targets and understand the limitations of each. Next, by building on your existing knowledge of ODS, we will write some practical programs that give us control over appearance and style. We will use our knowledge of Proc Report, Proc Print and Proc Tabulate to produce heavily customized reports. In addition to understanding STYLE= syntax and STYLE templates, we will learn about using TABLE TEMPLATES with procedures and the DATA step. Finally, we will introduce students to the concepts of ODS MARKUP for creating tagsets used in HTML and XML document generation.

Instructor: Greg Nelson, Thotwave Technology

ID #14B	DATE:	Sunday – 10/22/2006	TIME:	1:00 PM – 5:00 PM	Half Day

Advanced ODS: Understanding ODS Objects

ODS – or the Output Delivery System – was a major milestone in the development of SAS. With ODS, we now have the ability to programmatically control the content, structure and format of how SAS renders content from any Procedure and Data Step. Most uses of ODS have centered on its ability to take structured output from SAS – normally thought of as the SAS listing – and redirect it to other formats such as HTML, PDF, and RTF. This course is designed for SAS programmers who want to understand not only the fundamentals, but also expand on ODS' importance, uses, strengths and learn how to exploit ODS for managing complex content.

This is the second of a two-part course in ODS for SAS Programmers. In this section, participants will apply what they learned about the ODS and stylizing output to developing complex reports using ODS objects. Here, participants will learn the ODS and how it relates to OO programming and the Object Model by exploring the ODS objects that are available to us as programmers. Here, we will develop a series of reusable programs that can be used to access metadata and output from procedures to create specifically designed reports that combine text, tables and graphics. By using ODS LAYOUT and ODS GRAPHICS, we will focus on how customized reporting can easily be accomplished. In addition, we will explore output objects that are not normally available as part of the standard SAS listing or output datasets provided for by the PROCS. Finally, we will provide several case studies in taking output that was created in part I and generate the content so that it is usable in Microsoft Office tools such as Word, Excel and PowerPoint.

Instructor: Greg Nelson, Thotwave Technology

ID #15	DATE:	Sunday – 10/22/2006	TIME:	8:00 AM – 5:00 PM	Full Day

Introduction to Enterprise Guide

Students who take this course will learn a lot about the SAS System and especially Enterprise Guide. This understanding will help the student to write more efficient programs as well as utilize more features of the SAS System through the point and click interface of Enterprise Guide.

Instructor: Ben Cochran, The Bedford Group

ID #16A	DATE:	Sunday – 10/22/2006	TIME:	8:00 AM – Noon	Half Day

An Animated Guide: A CDISC Sandbox

This course is targeted towards programmers who have some Pharma experience but have not had a chance to work on a CDISC submission. This problem based class will take an imaginary study and track the data from the Case Report Form (CRF) through the data sets that could be submitted to the FDA to a few tables and listings. Attendees will leave with copies of the CRF and CDISC complaint data sets. Proc CDISC will be demonstrated.

Instructor: Russ Lavery

ID #16B	DATE:	Sunday – 10/22/2006	TIME:	1:00 PM – 5:00 PM	Half Day

An Animated Guide: PROC TRANSPOSE & Transposing with the Data Step

Transpose is the key to normalizing and denormalizing data and can be a key tool in working with relational databases. This course is for those programmers who may or may not be familiar with the Transpose procedure. Students will learn how to identify which variables to transpose and working with key variables.

Instructor: Russ Lavery

ID #17A	DATE:	Sunday – 10/22/2006	TIME:	8:00 AM – Noon	Half Day

PROC SQL: Beyond the Basics

Expand your PROC SQL skills beyond the basics with this Advanced PROC SQL Programming Techniques seminar. Numerous examples of this powerful language will be presented to improve a user's mastery of the language while providing a better understanding of the language details to perform more complicated tasks. Topics include using case expressions, accessing dictionary tables, interfacing PROC SQL with the Macro facility, implementing table integrity constraints, undocumented and hard-to-find PROC SQL features, performing complex queries with joins and set operators, strategies for creating and using views, debugging techniques including many documented and undocumented features, and performance tuning strategies.

Instructor: Kirk Paul Lafler, Software Intelligence Corporation

ID #17B	DATE:	Sunday – 10/22/2006	TIME:	1:00 PM – 5:00 PM	Half Day

Advanced SAS Programming Techniques

SAS users who have acquired basic skills presented in a SAS Software Basics course and want to expand their knowledge in the DATA step as a programming language will want to attend the Advanced SAS Programming Techniques seminar. Attendees learn complex programming topics and techniques in the areas of data access, data manipulation, data management, data presentation, and much more. Topics include DATA step programming techniques including reading a variety of file formats; using column and line pointers; specifying system and language options; coding loops, ranges, and arrays; using operators and modifiers; testing and debugging techniques; reshaping columns of data; techniques on managing data; custom report writing techniques; and integrating ODS for improved output.

Instructor: Kirk Paul Lafler, Software Intelligence Corporation

ID #18	DATE:	Wednesday – 10/25/2006	TIME:	8:00 AM –5:00 PM	Full Day

Exploratory Graphical Data Analysis

Data exploration and graphical data analysis methods stress visualization to thoroughly study the structure of data and to check the validity of statistical model fit to the data. This full-day course covers fundamental concepts for understanding and successfully applying data exploration and graphical data analysis methods by using the powerful **user-friendly SAS macro applications**. These concepts will be illustrated via downloadable SAS macro files. The participants will learn data exploration and graphical data analysis methods used in exploratory factor analysis, k-mean cluster analysis, multiple and logistic regression, and discriminant analysis. This workshop is intended for data analysts, predictive modelers, statistical consultants, and bio-statisticians, in advanced training in data exploration and graphical data analysis methods for increasing the effectiveness, efficiency, and productivity of research and development. Participants are required to have an understanding in basic statistical methods and an introductory working knowledge in SAS systems

Instructor: George Fernandez, University of Nevada Reno

ID #19	DATE:	Wednesday – 10/25/2006	TIME:	8:00 AM – 5:00 PM	Full Day

Using Functions and Arrays to Manipulate Data with the SAS System

This course will explore the DATA step and tools that can be used to manipulate data. Topics that will be covered include functions that can be used with numeric and character data, DO loops, and arrays.

Instructor: Ben Cochran, The Bedford Group

ID #20	DATE:	Thursday – 10/26/2006	TIME:	8:00 AM – 5:00 PM	Full Day

Tips, Tricks, and SAS Techniques

An eclectic mix of SAS tips and techniques that our consultants have used in contract programming. It will consist of many short examples from a wide variety of topics presented in a lecture format, along with short exercises. Learn unique options and programming techniques, discover small and clever tips from a wide variety of topics, learn tricks to improve code, learn cool uses of common SAS procedures, functions, and statements. Every student will leave with at least a few clever tips.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

ID #21	DATE:	Thursday – 10/26/2006	TIME:	8:00 AM – 5:00 PM	Full Day

SAS Efficiencies

This course will cover how SAS processes large data files and will show several techniques for improving a SAS program. Emphasis will be on the DATA step, with a brief look at improving the use of several SAS PROCS.

Instructor: Steven First, Gerald Frey, Rosalind Gusinow, Teresa Shudrowitz; Systems Seminars Consultants

INSTRUCTOR BIOGRAPHIES

Ben Cochran

After more than 11 years with SAS Institute, Ben Cochran now heads his own consulting and SAS Training business, The Bedford Group. Ben has authored and presented several papers at SAS Users Group International Conferences, his most recent one being "Using the Passthrough Facility in PROC SQL to Access Sybase Tables" (Indianapolis, 2000).

Prof George C.J. Fernandez

Prof George C.J. Fernandez currently serves as the statistician for the Nevada Experimental station and Cooperative Extension. He has more than 20 years of experience in teaching courses such as introductory statistical methods, design and analysis of experiments, linear and non-linear regression, multivariate statistical methods and SAS programming. He is a professional SAS programmer and has over 22 years experience in many statistical and graphical SAS modules. He has won best paper and poster presentation awards at the regional and international conferences. He has presented several invited full-day workshops on "Applications of user-friendly statistical methods in Data mining: American Statistical Association Joint meeting in Atlanta (2001), Western SAS users Conference in Arizona (2000), in San Diego (2002),and San Jose (2005), 56th Deming's conference, Atlantic City (2003), Key-note Speaker and workshop presenter, 16th Conference on Applied Statistics, Kansas State University. Many international and national SAS users are currently using his user-friendly SAS applications for data analysis via on-line. He has also organized 7th Western Users of SAS conference (WUSS) at Los Angeles in 1999 and served as the section chair, SUGI31. His book on "Data mining using SAS applications" (CRC press / Chapman Hall) contains many user-friendly SAS macro-applications.

Steven First

Steven First, President and Owner of Systems Seminar Consultants, Inc. is one of the countries foremost experts in SAS applications and support. One of the early pioneers to recognize the power of SAS software and stay with it, Steve's commitment to quality and customer service has resulted in a profitable, successful, and fast growing business. Steve has established a reputation for making his clients' work easier, not more complicated. His experience with SAS since 1976 includes manufacturing, government, university, and financial applications. Consulting specialty areas include ISPF, DB2, MVS JCL, SAS Macro and AF systems, SAS installation, SAS/Graph mapping and graphic systems, and security and data management.

Mal Foley

Malachy J. Foley is a senior SAS Programmer/Analyst in the Department of Biostatistics at the University of North Carolina at Chapel Hill. Mal has worked with all types of data for more than 30 years. His career in computing includes being an international consultant, a department manager, a university professor, and a CEO. He has consulted to IBM, Dow Chemical, Ford-Rockefeller Foundation, United Nations, GE, Department of Agriculture, Agency for International Development, GSK, Research Triangle Institutes and many universities. He has taught dozens of computing courses at the undergraduate, graduate, and professional levels. He frequently presents papers and gives seminars at local, regional, national and international SAS users' groups.

Gerald Frey

Gerald Frey joined Systems Seminar Consultants, Inc. in 1999 as a SAS ® Instructor and 4 Consultant. He has over 10 years of programming and consulting experience in mainframe applications and development with a background in the financial services, insurance and health care industries. He is actively involved in SAS training. Gerald graduated from DeVry Institute of Technology with a Bachelor of Science in Computer Information Systems and a minor in Business Accounting. Professional associations include various local and regional SAS Users Groups. Gerald is also a SAS Certified Professional V8.

Rosalind Gusinow

Rosalind Gusinow joined Systems Seminar Consultants, Inc. in 1996 as a consultant and trainer. Rosalind is a seasoned IT professional with a broad and deep background in mainframe systems authoring, reporting, and help desk support. As a consultant at SSC, her work included risk reporting systems, health insurance subscriber management systems, SAS/AF reporting systems, SAS/IntrNet development, accessing relational databases, and strategic acquisition support. She has worked at various industries including financial, health care, insurance, manufacturing, and marketing. Rosalind has a Bachelor of Science in Mathematics with a Minor in Education from the University of Wisconsin, Madison.

Kirk Paul Lafler

Kirk Paul Lafler is consultant and founder of Software Intelligence Corporation and has been programming in SAS since 1979. As a SAS Certified Professional and SAS Institute Alliance Member (1996 – 2002), Kirk provides IT consulting services and training to SAS users around the world. He has written four books including PROC SQL: Beyond the Basics Using SAS by SAS Institute, Power SAS and Power AOL by Apress, as well as more than one hundred peer-reviewed papers and articles. Kirk is a frequent invited speaker at International, Regional, and Local SAS User Group Conferences. He also writes a popular SAS Tips column called Kirk's Korner that appears regularly in the BASAS, HASUG, SANDS, SAS Institute, SESUG, and WUSS Newsletters and websites.

Russ Lavery

Russ is a frequent and award winning presenter at many SAS User Group International conferences. He fell in love with SAS in 1985 and is now an independent SAS contractor. He is the creator of the 'An Animated Guide' series of talks on SAS and statistical topics.

Greg Nelson

As President and CEO of ThotWave Technologies, Mr. Nelson leads software development activities and oversees the design, testing, and implementation of application development services. Mr. Nelson joined ThotWave with over 19 years of experience in market research, database marketing, systems development and project management. Currently, Greg is responsible for developing ThotWave's service offerings for reporting and analysis applications in the pharmaceutical and biotechnology industries.

Teresa Schudrowitz

Teresa joined Systems Seminar Consultants, Inc. as a Trainer and Project Manager in the spring of 2000 bringing the company valuable knowledge and experience in providing technical software-related consulting and training services to large corporations. Since 1997, SAS has been an integral part of Teresa's daily activities. Her experience ranges from data conversion, report writing, web-development and production support to coaching and helping associates to fully understand their own code. Teresa also has experience developing and instructing software training courses for beginning and experienced programmers. Her teaching experience ranges from providing very basic SAS language instruction to non-data processing employees to instructing experienced programmers to understand and take full advantage of complex and advanced procedures. At Systems Seminar Consultants, Teresa provides SAS software training and consulting services to large corporations and government agencies. Projects include systems development, report packaging, ad hoc user and production support, and end-user training.

THE VIRTUAL LEARNING CENTER

Destiny Corporation is sponsoring the Virtual Learning Center. Destiny has put their instructor led course materials into a Virtual Learning Environment. Attendees will be able to attend courses and select from over 300 SAS topics. The vDestiny Virtual Learning Environment brings the dynamic classroom to you. This is a totally new and unique way to learn SAS software. Experience the quality and benefits of 'Instructor Led' training from the comfort of the PCs provided by Destiny Corporation. The primary topics offered at this conference are listed below. Come visit us and sign up for a time slot at the Virtual Learning Center!

Topics Available in the Virtual Learning Center

Version 9: Changes and Enhancements
Introduction to Programming in SAS Software
Programming I SAS Essentials
Programming II: Data Manipulation Using the Data Step
Programming III: Advanced Techniques
Macros in SAS Software
SQL Processing Tips and Techniques
Report Writing: A Programming Approach
Output Delivery System (ODS) Basics
Graphing in SAS Software
Add-In to Microsoft Office: The Word and Excel Interface to SAS Software
Enterprise Guide Querying and Reporting
Enterprise Guide: The Easy Way to Use SAS Software

Note: These are the same, full course topics given in a Destiny instructor led classroom environment, including lecture, software demonstrations, workshop explanations, workshop solutions and instructor support.

Sunday Evening Opening Ceremony Keynote Address
"Version 9 – Onward and Upward"
Rick Langston
Manager, Core Systems Department

At SUGI 31 Opening Session, we all enjoyed walking with Rick down "Memory Lane", covering 30 years of amazing progress in the SAS system. With his historical understanding, Rick will help us "format" our view of the current offerings for BASE SAS. Rick will also tell us what the future for BASE SAS is, using his own unique style.

PRESENTATION ABSTRACTS

APPLICATION DEVELOPMENT

Futrix V5 Integration with the SAS BI Server for OLAP Cubes

The Futrix tool set had already provided extensions to the SAS System that made the building of OLAP Server cubes a painless and quick process. Futrix V5 is the first release that integrates with the SAS 9 BI Server architecture in an iterative approach. In addition to the previous ability to build, query, and optimize OLAP cubes, Futrix users can now integrate the application with the SAS Metadata Server, the SAS Information Delivery Portal, and utilize the SAS 9 security architecture. This presentation will demonstrate Futrix V5 and how it efficiently interacts with the SAS 9 BI Server.
DJ Penix, Pinnacle Solutions, Inc.

Pruning the SASLOG Digging into the Roots of NOTEs, WARNINGs, and ERRORs

You've sat through constant design meetings. You've endured countless requests for "just one more little change". You even managed to find a creative solution to that nagging technical problem. But, you persevered, and despite all of the obstacles, you've managed to eliminate the final syntax error in your newest SAS* routine. Time to sit back and relax -- uh, not quite ...The primary focus of this presentation will be on techniques to ensure comprehension of your input data. We will look at several messages that are often found in the SASLOG, such as: NOTE: MERGE statement has more than one data set with repeats of BY values that imply that there may be gaps in your knowledge of your data! Special emphasis will be placed on the use of ad-hoc queries to assist in finding data anomalies that can cause problems with your SAS code. It is assumed that the reader has a basic understanding of the SASLOG, including its composition, format, and the SAS system options which control its content.
Andrew T Kuligowski, Nielsen Media Research

Enhancements to Maps using the Annotate Dataset

The Annotate Dataset in SAS is employed to enhance maps. Records are created for the display of list of landmarks and railroad routes using latitude and longitude coordinates. Data for Alaska and Hawaii are projected with a separate location for each state and a reduced scale for Alaska, allowing the display of points in the preferred USCOUNTY map format.
David J Corliss, Marketing Associates

Using SAS to Create a Flexible Survey Interviewer Tracking Chart

Advances in technology have made available a staggering amount of information on the survey data collection process for use in tracking field interviewer (FI) behavior. The challenge lies in how to harvest these rich data sources to produce valuable tools for those who monitor the data. This paper presents a SAS technique to compile raw record-of-calls data from individual field interviewers and display them in an interactive and informative format for data quality reviewers. Our process reads the raw data into SAS, organizes them into the necessary output format using arrays and the LAG function, and uses the SAS Output Delivery System (ODS) to generate a Microsoft Excel-based report. With the report, a reviewer is not only able to trace the pattern of calls made by an interviewer, but can also get an overall picture of the progress of the field activity and make comparisons across interviewers and regions.
Joe Murphy, RTI International

Parsing Variable Lists: A Macro Function for Macros

Variable lists are often used in SAS procedures and data steps. However, variable lists such as A1-A30 and T--F cannot be used directly in macros, which greatly limits the macros' capacity of working with multiple variables. To make macros work with any variable lists just as SAS procedures do, it is essential for the macros to be able to parse the variable lists. This paper presents a macro function %parse(dsn, varlist <, nvars>) that can parse any variable list (varlist) for a given data set (dsn). The variable list can be a conventional SAS variable list (like those used in PROC steps and DATA steps) or a Perl regular expression. The function returns a complete list of variable names corresponding to the variable list. With Perl regular expressions, this function can parse variable lists far beyond the conventional ones used in PROC steps and DATA steps.
Jimmy Zou, Michigan State University

A SAS/AF® Utility for Managing Stored SCL Lists

SCL lists are an important component of SAS® applications development. Unfortunately, there are no tools within SAS for the creation and editing of SCL lists that are stored as SLIST catalog entries. This describes one such application, which creates an SLIST entry from an ASCII file, allows you to edit/delete an existing SLIST entry, and also will write an existing SLIST entry to an ASCII file. The utility works on both named and ordered SLIST entries.
Derek P Morgan, Washington Univ. Medical School

Leveraging SAS Portal: An Executive Dashboard with Customizable Data Source

Data is one of the biggest assets of corporations, and the ability to analyze it drives corporate goals and results. One of the latest trends in business intelligence is the use of Key Performance Indicators to measure corporate performance. SAS provides a great deal of tools to generate this kind of interface; the question is how to create a flexible, attractive and meaningful Dashboard integrated into the SAS Portal. This paper will step through the implementation of an Executive Dashboard as a Portlet Template that summarizes data and represents it with SAS Critical Success Factor diagrams, using the SAS Java Connection Factory and the SAS Rangeview applet. Additionally, this Portlet illustrates the key benefit of SAS Editable Portlets by allowing the users to choose the data they want to diagram. They will be able to run stored processes and generate the source data, all at the tips of their fingertips.
Elibeth R Carpenter, Comsys

Let the ODS PRINTER Statement Take Your Output into the Twenty-First Century

Since its debut in SAS® 8.2, the ODS PRINTER statement has steadily become more versatile, more flexible, and more robust. Working closely with Technical Support and the balloting system, we have added new items in response to our users' needs. Inline formatting, table-of-contents handling, and Unicode support are some of the many new enhancements available to users of SAS® 9.2. With all the new changes, ODS PRINTER will take your output into the twenty-first century and beyond.
Scott Huntley, SAS

Release 2.1 of SAS Add-In for Microsoft Office

Release 2.1 of SAS Add-In for Microsoft Office builds on the functionality introduced in release 1.3 of SAS Add-In for Microsoft Office. With release 2.1, Microsoft PowerPoint users can access the power of SAS and create presentations with refreshable SAS content. SAS data access support in Microsoft Excel is greatly expanded in release 2.1; users can open SAS data sources of any size, either directly into worksheets or into Microsoft Excel PivotTables, and users can easily create a SAS data set from Microsoft Excel data. For reporting, release 2.1 facilitates formatting SAS reports using the Microsoft Office application, and intermixing SAS content with other content in Microsoft Excel. For a full list of the features in release 2.1 of SAS Add-In for Microsoft Office, refer to "Appendix A - SAS Add-In for Microsoft Office Feature List by Release." For information about migrating Microsoft Office documents containing SAS content that is created with release 1.3 of SAS Add-In for Microsoft Office, refer to "Appendix B - Migrating Microsoft Office Documents Containing Content Created with Release 1.3 of SAS Add-In for Microsoft Office."
Bill Gibson, SAS

SAS Enterprise Guide Custom Tasks

SAS Enterprise Guide comes with a large number of built-in tasks for various data access, manipulation and analysis needs. In addition, Enterprise Guide provides a unique framework for creating new tools known as custom tasks. Custom tasks feature attractive graphical user interfaces and can significantly shorten the user's learning curve and greatly increase his/her productivity. This presentation will provide a high-level overview of Enterprise Guide custom tasks, installation procedures and other features. It also provides useful information for custom task developers, for example, describes the underlying data model, how custom tasks interact with the SAS System and how to build custom tasks.
Alex Dmitrienko, Eli Lilly and Company

Modifying the LogParse PassInfo macro

Executing a SAS program produces several outputs:* the job log, which contains times of each step and the job*, the job listing, the desired output*, the product usage (rtrace) log. The job log can be read with the SAS Institute logparse and PassInfo macros. The rtrace log can be read with Raithel's rtracerd macro. This paper examines the issues of building a SAS usage database by modifying the above macros to provide common keys for joining the job times with the products used.
Ronald Fehd, Centers for Disease Control

Creating a Windows Service using SAS® 9 and VB.NET

The latest version of Visual Basic allows you to easily create a Windows Service. The latest version of SAS allows you to easily integrate with Visual Basic. Therefore for the first time it is now possible to create a Windows Service using SAS. The purpose of this paper is to show you how to do it. To create a SAS Windows Service, we will use only VB.NET and SAS/Base, plus a few free tools from Microsoft. This topic is appropriate for intermediate to advanced programmers, particularly those with a background in application development or systems architecture.
David J Bosak, COMSYS

That's the Signpost Up Ahead Your Next Stop, SAS IML

The SAS IML module opens up a separate dimension, language if you will within SAS. In this paper your guide will lead through the steps to this dimension, if you dare. This paper will demonstrate the basics of how to get started with programming in SAS IML, the SAS mathematical programming language. This paper will cover reading in data and getting data out of SAS IML. The sources covered will be SAS datasets and Text files, the destinations covered will be SAS datasets, Text files and SAS Listing and ODS destinations. You're moving into a land of both shadow and substance, of things and ideas. You've just crossed over into SAS IML.
Gary Allen, CCSI

CODERS CORNER

An Effective CLEANWORK.SAS for Windows

SAS provides an effective utility for deleting orphaned work directories on Unix boxes. But their offering for Windows merely deletes everything older than a particular time (http://support.sas.com/techsup/unotes/SN/008/008786.html). This is unworkable for a server environment. This paper discusses a short program for Windows that parses the root WORK directory and matches directory names to SAS v9 running processes. Directories that are not matched are then deleted.

John M Wildenthal, JPMorgan Chase

Joining Wide Tables with PROC SQL

SAS handles "SELECT a.*, b.*" with an error when there are variable names in common in the tables. Working around this normally takes a lot of typing of the individual column names. This is tedious, error-prone, and brittle to changes in the underlying tables. What shall we do? Let SAS type them for you!

John M Wildenthal, JPMorgan Chase

Use PROC REPORT to Transpose data

PROC TRANSPOSE is powerful to transform data form one structure to other ones. However, some complex data structure transformation involving multitasks of PROC TRANSPOSE and the syntax is sort of puzzling to some users. They have to do tons of testing to get it through. Here, PROC REPORT could provide an alternative way to accomplish the same task and the syntax is much easier to handle.

Lingqun Liu, the University of Michigan

Accuracy or Efficiency in Merging

Merge is an often used statement when we do SAS programming. Besides one-to-one merging and match-merging, we want to merge datasets with specific conditions. We want to change the value of variable after merging or select a specific variable to merge. Those tasks normally involve IF-THEN or SELECT statements to fulfill. The generic solution to avoid this problem is: merge the datasets in one data step and modify the value in next data step. However if we want to be more efficient and apply MERGE, IF-THEN statements in one data step, we will have messed-up results and lose accuracy. In this paper, there are examples showing the outcome when we apply the method described above. Pay attention to the result and think if we can de better. The MERGE statement is flexible and has a variety of uses in SAS programming. There are two kinds of merging. One-to-one merging simply combines observations from two or more SAS data sets into a single observation in a new data

Cindy Liu, Wells Fargo

Dynamic Titles & Footnotes Tool in a Clinical Study Report

Appropriate clinical study report is vital for a successful submission of any pharmaceutical compound. Overall submission process is a plan that warrants frequent changes of titles and footnotes of reports until the final submission document. These changes cannot be foreseen during construction of the requirement documents and thus it causes a lot of additional resources for the statistical programmer. Hard coding of titles and footnotes inside the SAS program is risky since it cannot guarantee error free due to typing. A tool such as dynamic insertion of titles and footnotes process avoids retyping them in the SAS programs and thus eliminates titles and footnotes typing errors in the reports. Furthermore, it eliminates the need of program modification due to frequent title and footnote changes.

Hangtao Xu, Eli Lilly and Company

Inline Formatting + Long Character Variables = Wow! That's SAS®?

Version 8 of SAS expanded the maximum size of character variables, and this is a practical use of that capacity. When you combine this with a custom ODS template, in-line formatting, and the REPORT procedure, you can build a report that will look as if it came from a word processor.

Derek P Morgan, Washington Univ. Medical School

Some Common and Not So Common Uses of Pipes in a Windows Environment

Utilizing pipes from Windows programs opens up new possibilities and functionalities. This paper will introduce and show examples of some common and not so common uses of pipes in a Windows environment. Pipes can also be a very powerful tool in other operating systems but that is outside the scope of this paper.

Brian K Varney, COMSYS

Journeymen's Tools: Data Review Macro FreqAll

The SAS macro language is simple, yet powerful. List Processing with Proc SQL is also simple, yet powerful. This paper provides a data review macro FreqAll, which illustrates using PROC SQL reading DICTIONARY.COLUMNS to replace macro %DO loops.

Ronald 'The Macro Maven' Fehd, Centers for Disease Control

DATA MINING AND WAREHOUSING

The Metadata Survey Method: Phase II

The metadata method was developed to bypass obstacles related to staff resources for end-user data capture. It uses SAS datasets to implement program control as well as provide questions and responses. A fixed series of SAS/AF frames interact with the user, yielding a consistent user interface. The frame code does not change between surveys the datasets do. Phase 1 consisted of a prototype application built for one specific survey. The main focus of this paper is phase 2, where a series of tools are used to create and modify the control datasets so that rapid survey deployment from a paper form template can be implemented. It allows this deployment, with the exception of any custom frames necessary, without direct intervention from programming staff. A sample survey form will be constructed from a paper template to illustrate how these tools can be used by staff.

Derek P Morgan, Washington Univ. Medical School

Heavy-Duty Text Mining with Holographic Decision Trees

The data-mining classification and predictive modeling algorithms that are based on bootstrapping techniques re-use a source data set, repeatedly, to create a family of predictive and classification models that can be said to render a "holographic" view of the modeled data. The results offer a classification and prediction performance that is superior to single-model approaches. These holographic approaches are applied in an industrial setting that involves text mining warranty claims at a major international car, truck, and heavy equipment manufacturer. This paper explains the methods used, how they work, and how they perform in the text-mining area as applied to warranty claims. Combined text and quantitative data models are developed, tested, and validated in order to address the goal of achieving "better-than-human" classification performance on warranty claims.

Barry deVille,, SAS

PHARMACEUTICAL AND HEALTHCARE

Deploying SAS as the Cornerstone of a Stability Monitoring Program

Both US and international regulations require pharmaceutical companies to perform stability testing on all marketed active pharmaceutical ingredients (APIs; also referred to as drug substances) and finished drug products to provide evidence on how the quality of such products varies with time under the influence of a variety of environmental factors such as temperature, humidity, and light. Data obtained during stability testing is used to establish a retest period for the drug substance or a shelf life for the drug product and recommended storage conditions. Inherent challenges faced by stability personnel charged with managing the storage and testing of a high volume of products and/or product configurations include (1) difficulty in distinguishing variability in test results from changes in the product over time, and (2) resource constraints on the capacity for statistical analysis and evaluation of stability data in a timely manner.

Jeff Gardner, Abbott

SAS Macro to Analyze and Report Animal Growth for Toxicology Studies

The most commonly collected data for toxicology studies is body weight. A body weight change is important for monitoring the well-being of the animal and toxicities of a compound. The statistical method used in analysis of body weight data is based on one-factor ANOVA model with repeated measures. A SAS macro tool was developed to perform various statistical tests and to tabulate the final results in a user's friendly format. This macro can also be used to analyze animal growth data other than body weights. A portion of this macro is described in "Pharmaceutical Statistics Using SAS," scheduled to be published in October 2006 by SAS Press.

Cindy Lee, Eli Lilly and Company

Power Evaluation in Nonclinical Safety Assessment

The goal of drug development is to identify safe and efficacious treatments for human diseases. Before clinical trials, compound safety and efficacy are studied through careful evaluation in nonclinical animal models. One of the key statistical aspects of toxicology studies in the nonclinical phase is the study power. Power evaluation will be illustrated using simulated heart-rate corrected QT interval data analyzed in a two-factor analysis of variance framework. The application is for a toxicology study with a vehicle control (Dose 0) and three groups of increasing dose of a compound (Doses 1, 2 and 3). Sample size of three or four animals per sex per group is used. The power evaluation is important because the ICH S7B guideline recommends that the sensitivity and reproducibility of the in vivo test system should be characterized.

Kevin Guo, Eli Lilly and Company

Repeated Events and Clustered Data in Cox Regression using PROC PHREG

Repeated events or clustered data are commonly encountered in survival analysis. Repeated events may be recurrent asthma attacks or colds. Clustered data may be from patients at the same clinic, or in the same family. Clustered data can be accommodated using a robust variance based on the sandwich estimator, done in Proc PHREG using the COVSANDWICH option. This variance estimator will be explained, and examples with SAS code will be given. Repeated events can be handled in several different ways in the context of a Cox model. Options depend on whether the time axis is re-started at each event, or continued from a single time origin, and whether the event number makes a difference. Examples of different methods of handling repeated events using Proc PHREG will be presented.

Brenda W Gillespie, University of Michigan

An Animated Guide : PROC REPORT: The File Behind the Scenes

PROC REPORT builds and temporary internal file behind the scenes and uses that file, and a Report Data Vector, to compute new variables. Understanding the creation of the file, and the flow of data through the Report Data Vector, makes programming and debugging easier. How PROC REPORT uses the report data vector.Breaks and Rbreaks.Compute before/after var Vs. Compute Before/After Vs. ComputeData variables vs. Report Variables and using the automatic retain in PROC REPORT (creating percents and cumulative percents). Several, increasingly complex, programs will be analyzed as the method of illustrating the material.

Russ M Lavery, self

STATISTICS AND DATA ANALYSIS

Using Biweights for Handling Outliers

Values far from the center of the data are called outliers. These can be highly influential in determining the character of descriptive statistics. M-estimators are a class of central tendency measures than replace the mean and are highly resistant to local misbehavior caused by outlier data. Beaton and Tukey introduced the biweight as an iteratively reweighed measure of central tendency. Huber also introduced a complementary M-estimator. SAS will calculate both the biweight and the Huber weight function in PROC STDIZE. PROC NLIN will allow for biweight and Huber weights to be utilized in user developed equations. Examples will be given as well as some theory.

George W Dombi, Karmanos Cancer Institute

Manuscript Ready Tables via HTML Using the Macros %cattable and %conttable

The author presents two macros for use in SAS version 7.0 or higher. The %cattable macro takes a list of any number of categorical factors, and %conttable takes a similar listing of continuous factors. Both macros present the association of the list with a 2 level response variable and provide summary statistics taken from several PROCs with many options for table appearance and statistic selection including odds ratios and appropriate significance levels from both parametric and non-parametric methods. The author uses these two macros, which generate manuscript-ready descriptive summary tables, to demonstrate how to take Microsoft Word mock-up tables and generate SAS code that produces customizable tables from ODS output datasets and data step code. Used in conjunction with Microsoft Word's ability to read and interpret HTML files, these allow additional flexibility in formatting and layout often difficult to achieve using the ODS RTF destination.

Matthew T Karafa, The Cleveland Clinic

Statistical Analyst

Summary statistics can be N MEAN STD. We can use them to do the same statistical analysis as we can do with the raw dataset. This will help us to save time and space if we just keep summary statistics or help us to figure out other test statistics by using summary statistics when we are reading a research paper. This paper will discuss how to use summary statistics as raw data to do basic statistical analysis.

Dachao Liu, Northwestern University

Dependent Scores within KAI and MBTI Instruments

Various psychometric instruments assessing human personality preferences strive to measure divergent aspects, such as our career aptitude, creativity style, communication and learning style, to name just a few. Two of such instruments, Myers-Briggs Type Indicator and Kirton Adaptation-Innovation Inventory, were developed to measure personal preferences and creativity style respectively. These aspects were first assumed to be independent variables that contribute to a human character. This work uses a psychometric data set built over a decade by Rolf Smith's School for Innovators and shows that psychometric parameters tend to work in tandem, although more unusual cases exist and may be worth special attention. The assessment has been completed with the General Linear Model (GLM) and Generalized Linear Model (GLIM).The known psychometric scale correlations have been confirmed, and new insights have been discovered in regards to intra- instrument relationships.

Marie Risov, University of Louisville, Kentucky

Case Study Using Match Case-Control Method

In order to confidently test outcome differences between retrospectively defined study and control samples, it is advisable to match the samples on characteristics that could otherwise bias the results. Demographic characteristics are commonly employed comparison variables. Successful application of this method, known as matched case-control, involves the following steps: Collection of descriptive information by treatment groups, means testing and analysis of key attributes, identification of outlying characteristics and the random exclusion of controls using data-specific criteria. This paper will discuss applying base SAS programming techniques to effectively and impartially normalize a control group to a study group for an epidemiological study.

Matt P Shevrin, Veterans Affairs HSR&D

Diagnosing and Handling Non-Positive Definite G Matrix in PROC MIXED

Computational problems with maximum likelihood estimation of covariance parameters in linear mixed models arise frequently in practice. In some cases, estimates of covariance parameters converge to a solution at or outside the boundary of the parameter space (e.g. an estimated variance may be zero or negative). As a result, the G matrix violates (or nearly violates) positive definiteness constraints. We fit a linear mixed model to a longitudinal data set, using PROC MIXED, in which this problem occurs, and use the NOBOUND option to help diagnose it. We also fit a marginal model for the same data set, in which random effects are not included. We compare the marginal covariance matrix, R, with the V matrix from the random effects modeling approach. This work can be found in the book Linear Mixed Models: A Practical Guide using Statistical Software (September 2006, Chapman & Hall / CRC Press).

Kathy B Welch, University of Michigan

Time to Failure in UPS Data Collector and UPS Thermal Printer

The purpose of this study is to model the effect of equipment age and model on the time to failure in UPS Data Collector and UPS Thermal Printer units repaired in 2003. The data were analyzed using a generalized linear model. The generalized linear model assumed a Poisson distribution with a log link function and an offset based on the natural log of the population. Life tables were calculated for the time to failure using equipment model and age as strata. Proportional hazards were also calculated using equipment age and model predicted time to failure. The generalized linear model appeared statistically significant overall (p-value <0.001). The effects of model and equipment age also appeared statistically significant (p-value <0.001 for both). However, 17.6% of the units had not been returned for repair by 4/30/2006, the end of the study, undermining the validity of these results. The life tables indicated that the strata were significant (Log-Rank and -2Log(LR) with p-value<0.0001 an

Rebecca E Dennison, UofL

Checking Assumptions in the Cox Proportional Hazards Regression Model

The Cox regression model is commonly used for survival data. Major assumptions of the Cox model are that the covariates are correctly specified, and the proportional hazards assumption is met. Several checks of these assumptions will be covered. First, the functional form of continuous covariates will be considered. Martingale residual plots and other methods will be considered for checking functional forms. Second, methods of checking the proportional hazards (PH) assumption will be covered. These methods include plots of the $\ln(-\ln(S(t)))$ versus t, plots of cumulative martingale residuals over time, and testing time*covariate interactions. If non-PH effects are found, options for presenting non-PH effects will also be covered. SAS code will focus on PROC PHREG. SAS tools will include (1) martingale versus deviance residuals, (2) plotting martingale residuals from PROC PHREG, and overlaying a loess line using SAS PROC LOESS, and (3) use of the new ASSESS command of PROC PHREG.

Brenda W Gillespie, University of Michigan

A Backward Elimination Macro for Regression on Multiple Imputed Survey Data

A SAS macro was designed to do backward elimination for survey regression on multiple imputed data sets. At each step of backward elimination, each data set completed by imputation is analyzed using PROC SURVEYREG. Next, the combined estimates and p-values are calculated by implementing PROC MIANALYZE. The combined p-values are sorted, and the maximum is compared to the staying criterion, which is defined by users, to decide if the corresponding variable should be eliminated. Users are required to provide a list of variables that should be included in all models and a list of variables that could be eliminated during the backward elimination procedure. This macro is also capable of handling categorical variables.

Qixuan Chen, The Department of Biostatistics, University of Michigan School of Public Health

Nonparametric Inference for Ordered Alternatives in a One-Way Layout Using

The one-way layout is a commonly used experimental design in scientific research. With such a design it is easy to test alternative statistical hypotheses of interest including all pair-wise comparisons of treatment effects or all pair-wise comparisons with a designated (control) group. Sometimes a natural ordering exists among the treatments in an experiment; e.g., the treatment levels in the study may represent increasing doses of a single agent and an investigator may conjecture, a priori, that the response will be decreasing (or increasing) with increasing levels of dose. It could also be the case that an investigator might wish to study if the response increases up to a certain treatment level and then begins to decrease over the remaining ordered levels. SAS® affords the user the ability to analyze data in both of these settings. The author will review the analysis of monotonic responses in a one-way layout using the Jonckheere-Terpstra statistic in PROC FREQ and then introduce a set of original

Paul Juneau, Pfizer Global Research & Development

Association of Computer Operator Errors and Lunar Phases

The frequency of computer operator errors is shown to be related to the phases of the moon. The time of customer contact at a call center is translated into the day of the lunar month. Operator errors in the computer record of each customer contact are matched with the point in time during the lunar month. An increase in the frequency of operator errors is measured during Full Moon and New Moon periods.

David J Corliss, Marketing Associates

TUTORIALS

An Animated Guide: A HOW on SAS V9.1 Hashing

Hashing is one of the fastest table lookup techniques, not just in SAS, but in any programming language. Figure 1 illustrates the concept of a table lookup and the speed advantage of SAS V9 Hashing over a format table lookup. If a programmer needs to select, from a large file, all subjects that are in a small file, hashing will likely save disk space and time. Hashing should be part of the tool kit of every programmer who deals with large files. Hashing is designed to allow a programmer to subset a large file, based on information in a small file (as is shown in figure 1). While that is the designed reason for SAS adding this new feature, hashing can also replace by merges, format lookups, IORC merges Proc Summary and sorting. A major benefit of hashing is that it does not need sorted input files. Sorting is a disk and CPU intensive process. Hashing has been the subject of much mathematical and programming research. Hashing gets its speed by: 1) a being a memory resident

Russ M Lavery, self

Exploring DICTIONARY Tables and SASHELP Views

SAS users can quickly and conveniently obtain useful information about their SAS session with a number of read-only SAS data views called DICTIONARY tables or SASHELP views. At any time during a SAS session, information about currently defined system options, libnames, table names, column names and attributes, formats, indexes, and more can be accessed and captured. This paper explores the purpose of DICTIONARY tables and views, how they are accessed, and what information is available to SAS users. Attendees will learn how these important tables and views can be accessed and applied using real-world scenarios.

Kirk Paul Lafler, Software Intelligence Corporation

Best Practices for Implementing a BI Strategy with SAS

This paper describes the best practices for all phases of a Business Intelligence strategy implementation using the SAS platform. It will cover what needs to be considered during the planning phase such as architecture, security and optimization as well as introduce the different tools available for data collection and reporting and what it means in terms of changes to move from SAS Foundation to the SAS BI platform.
Mike R Vanderlinden, COMSYS

The New World of SAS: Programming with SAS® Enterprise Guide

The covers the installation and operation of SAS Enterprise Guide v4.
Stephen McDaniel, SAS

How to Incorporate Old SAS Data into a New DATA Step, or What is S-M-U

S-M-U. Some people will see these three letters and immediately think of the abbreviation for a private university and associated football team in Texas. Others might treat them as a three-letter word, and recall a whimsical cartoon character created by Al Capp many years ago. However, in the world of the SAS user, these three letters represent the building blocks for processing SAS datasets through the SAS DATA step. S, M, and U are first letters in the words SET, MERGE, and UPDATE- the 3 commands used to introduce SAS data into a DATA step. This presentation will discuss the syntax for the SET, MERGE, and UPDATE commands. It will compare and contrast these 3 commands. Finally, it will provide appropriate uses for each command, along with basic examples that will illustrate the main points of the presentation.
Andrew T Kuligowski, Nielsen Media Research

Creating and Exploiting Information Maps and Filters on Clinical Data

Utilizing Information Maps with the SAS 9 Business Intelligence platform is vital in taking advantage of the software you have purchased. It is also a new concept in SAS development. This paper will focus on the creation of maps and filters as well as how to leverage these from SAS Enterprise Guide, SAS Add-in for Microsoft Office, Web Report Studio and SAS Web Report Studio on SAS data sets and OLAP cubes. Setting up information maps in an effective way can give information consumers an easy way to create reports and analyze data. The examples in this presentation will use mock clinical trial data.
Brian K Varney, COMSYS

Avoiding Blind Dates with SAS

This paper is by the author of The Essential Guide to SAS Dates and Times, and it begins by showing how SAS handles dates and times through practical examples, and will proceed through the capabilities of SAS intervals, closing with a nod to Excel conversions.
Derek P Morgan, Washington Univ. Medical School

SAS Macros for Statistical Analysis and Data Management

Knowledge of the structure of SAS macros is an essential skill for a data analyst and data manager. This presentation will cover SAS macro code for the following applications:I) Univariate Statistical Summary - Creating an Output File That Can Easily Be Read by Excel. II) Frequency Summary of Categorical Variables - How to Convert the Output to Spreadsheet Format. III)Statistical Tests And Models a) Chi-Square Test for Homogeneity b) Comparing 2 Groups With T-Test and Wilcoxon Test c) Comparing 3 or More Groups with ANOVA and Wilcoxon Test IV)Model Building a) Multiple Linear Regression b) Logistical Regression c) PROC GENMOD d) Linear and Logistic Regression With Complex Survey Data V)Building SAS Datasets From Multiple Files VI)Assigning Macro Variables a) %LET b) Call Symput.VII) Debugging Macros: SYMBOLGEN and MPRINT Options VIII) Building a Macro Library: %INCLUDE
Brandy R Sinco, University of Michigan School of Social Work

The Projman Application: Allowing SAS to Manage Your Project

SAS/OR software has four major procedures that can be used to manage your projects. The CPM and PM procedures can be used for scheduling tasks that make up the project. The GANTT procedure displays this schedule, and the NETDRAW procedure displays the project network made up of these tasks. These four procedures are integrated into the Projman application which is a friendly graphical user interface which is included as part of the SAS/OR software. This tutorial will cover the usage of these four procedures and the Projman application using several examples. The early part of the tutorial will cover the definition of terminology that is critical for understanding the output results.
Jon M Patton, Miami University

Modern Regression Analysis

Nonparametric and robust modeling are widely employed in modern regression analysis. Nonparametric analysis is used to model data for which knowledge of the underlying model is limited. Robust parametric or nonparametric methods are appropriate when data contains outliers. This workshop is intended for a broad audience of statisticians and data analysts who are interested in modern regression methods.
(Note: This is a two hour Tutorial)
Randy Tobias, SAS

SAS Education Seminars

There is no fee to attend this seminar. This three hour seminar will occur on Tuesday, October 24th. Seating is limited and will be on a first come, first served basis.

ODS Document
Linda Jolley, SAS

This seminar enables users to create ODS documents based on their SAS output and to browse, modify, or replay those ODS documents. Students learn the global ODS statements to create ODS documents and how to work with ODS documents through the use of the Documents window or the DOCUMENT procedure.

Hands on Workshops

There is no fee to attend these work shops. These workshops will occur on both Monday and Tuesday. Seating is limited and is on a first come, first serve basis.

Creating and Importing Multi-sheet Excel Workbooks the Easy Way with SAS 9

Transferring data and analytical results between SAS and Microsoft Excel can be difficult, especially when SAS is not installed on the Windows platform. This paper discusses using the new XML support in Base SAS 9.1 software to move data between SAS and Microsoft Excel (versions 2002 and later). You will learn step by step techniques to quickly and easily create multi-sheet Excel workbooks containing your SAS output. You will also learn about converting your own multi-sheet Excel workbooks into SAS tables. The techniques described here can be used regardless of the platform on which SAS software is installed, including the mainframe. The use of SAS server technology is also discussed.

Vince DelGobbo, SAS

How To Use Proc SQL for List Processing

The SAS macro language is simple, yet powerful. List processing with PROC SQL is also simple, yet powerful. This Hands On Workshop paper provides programmers with knowledge to use PROC SQL with the various SQL dictionaries to replace macro arrays and %DO loops. Expected audience is advanced users, and macro programmers.
Ronald Fehd, Centers for Disease Control

Introduction to SAS Enterprise Guide

SAS Enterprise Guide continues to attract much attention in the SAS user community and this workshop will bring you up to speed with this powerful software package. The workshop will explain the essentials of using the most recent version of the product, Enterprise Guide 4.1, released in March 2006 and compare it to Enterprise Guide 3.0. You will learn how to - Create Enterprise Guide projects and import data files into your projects. - Perform common data management operations in Enterprise Guide. - Use Enterprise Guide tasks to generate publication-quality output (data listings, summaries and graphics). - Organize your output to create reports. - Customize the Enterprise Guide environment to increase your productivity.
Alex Dmitrienko, Eli Lilly and Company

The VIEWTABLE Window: A Useful but Under-Appreciated Tool

The SAS VIEWTABLE window is part of SAS/BASE. This paper focuses on some of the features of the VIEWTABLE that are easy to overlook. By examining and highlighting some of its capabilities, a rational assessment can be made for the need to license additional products such as SAS/FSP. The latter, although a very powerful product with many uses, may be unnecessary for some organizations. Hence it is worth while to take a closer look at the VIEWTABLE. Written mainly with the Microsoft Windows user in mind, it shows how to (1) open a data set using the VIEWTABLE window, (2) create a new data set, (3) view your remote data via a SAS/CONNECT session, (4) sort your data in place and view the results, (5) filter your data with WHERE clauses, (6) choose the columns you want to display and (7) customize your VIEWTABLE window.
Venkatesan Chakravarthy, BioPharma Data Services

How the Data Step Really Works

This presentation will discuss the internals of the SAS data step and how it is designed to work. Many SAS programmers and analysts use the data step their entire career without ever understanding it. They lose out on all of the capabilities and efficiencies that can be gained. This will be one of the most enjoyable and informative sessions. Attendees will also get a copy of the code created.
Dana Rafiee, Destiny Corporation

Macro Basics: Show Me How to Code Less

Get hands-on experience understanding how macros can be used and created in SAS software. We will use macro variables and macro statements such as CALL SYMPUT and SYMGET, %MACRO, %MEND, and %LET. Learn to write macros for existing code and make your programs simpler and more efficient.

Dana Rafiee, Destiny Corporation

Show Me How to Debug Everything In Base SAS

Building programs in SAS is the easy part, however debugging programs can be challenging. In this workshop we will investigate every popular technique that experienced SAS programmers use to debug their programs. We will dump registers, work areas, run live debugging sessions, look at macro storage, conversion issues and more. The goal is to teach attendees how SAS really thinks and works.

Dana Rafiee, Destiny Corporation

What's New in Version 9

This presentation will discuss the new differences available in Version 9 of SAS Software. Learn how the new features will save you time and make your job easier. Some of the topics to be addressed are the new functions and options, new formats and informats and the new data step object dot syntax.

Dana Rafiee, Destiny Corporation

EXHIBIT AND DEMO ROOM

The Exhibit and Demo room will be open on Monday from 9:00 AM - 1:00 PM and 3:00 PM – 5:30 PM, and on Tuesday from 9:00 AM to 1:00 PM. Stop by the demonstration stations to meet SAS developers, see demonstrations, and ask questions about SAS software. Talk with representatives from SAS service areas such as Publications, SAS Education and Certification, Technical Support, Users Group Support, and others. Browse through SAS documentation at the Publications booth and receive a 20% discount (certain restrictions apply) on publication purchases. Complete the conference survey and receive a very nice gift. Several of the SAS booths also have giveaways!

SAS USER APPRECIATION RECEPTION

Be sure to join us Monday afternoon from 4:00 to 5:30 in the Demo Room where you can mingle with other MWSUG attendees and SAS staff while enjoying food and beverages. This reception is provided by SAS as way to thank you, our valuable SAS software users.

USEFUL CONFERENCE INFORMATION

Monday Luncheon Your registration fee includes lunch on both Monday and Tuesday. The MWSUG committee has arranged for conference attendees to enjoy lunch at the conference Hotel.

Monday Dinner Dinner will be on your own. Free round-trip shuttles will be provided to the Greektown area of Detroit. More details will be posted on the conference website, http://www.mwsug.org/det2006 as they become available.

Dress Conference attire is business casual. Some speakers may opt for "suit & tie" during their presentations.

Weather Weather in mid-October is generally pleasant in Dearborn, although it can vary dramatically. The average high on October 22 is 54 degrees F, while the average low is 42 degrees F. However, mid-October has seen temperatures as high as 79 F and as low as 30 F. It is advisable to check weather conditions before coming.

Opening Listen for special announcements and hear Rick Langston, our Keynote speaker. Following the opening session is a reception and mixer.

Closing Come bid farewell to your colleagues at the closing ceremonies on Tuesday. Listen to final announcements and be eligible for prizes, and meet next year's Conference Committee.

First timers All may attend this special welcome to first-time attendees. It will be held on Sunday, from 5:30 – 6:00 PM. Bring all of your questions.

Emergency Messages during the Conference If you need to be reached, have your contact call the Dearborn Inn and leave a message. Be sure that the caller identifies you as an MWSUG conference attendee. An MWSUG contact will be paged and every attempt will be made to find you.

Job Openings / Positions Wanted There will be a 3-ring binder available for job openings or position wanted announcements. This notebook will be available near the registration desk. The announcements must be in an 8.5 x 11 plastic sleeve that can be placed in the notebook. Business cards or flyers may be included provided they are in an 8.5 x 11 plastic sleeve. There is no charge for placing announcements in the notebook. We reserve the right to remove announcements placed elsewhere at the conference.

Advertising Advertisements at the conference must be related to the use of the SAS® System. There is a limited amount of space for vendor displays available on a first-paid basis. For more information on advertising, including deadlines and rates, please contact the Sponsor & Vendor Coordinators. All advertising and displays must be approved prior to the conference. No other selling or recruiting will be permitted within the conference area.

Conference Hotel
The Dearborn Inn
http://marriott.com/property/propertypage/DTWDI
20301 Oakwood Blvd.
Dearborn, MI 48124
313.271.2700

The Dearborn Inn, A Marriott Hotel, puts you at a distinct advantage with its convenient location near downtown Detroit and the Detroit Metropolitan Airport. Built in 1931 on the grounds of the Ford Motor Company, this 23-acre Colonial retreat is close to major corporations and cultural sites such as the Henry Ford, revered as "America's Greatest History Attraction." The Dearborn Inn offers a setting reminiscent of a bed and breakfast, complete with the level of service and amenities you've come to expect from Marriott. Here, you can enjoy a comfortable guest room or suite in the Main Inn, in 2 Colonial lodges or in 5 spacious Colonial guest homes. There's a fitness center. Golf nearby. The Dearborn Inn also gives you a choice of dining, from innovative cuisine to satisfying American specialties. And, with an entire wing dedicated to more than 17,000 sq ft of flexible function space, this historic Detroit hotel can accommodate small social affairs, intimate weddings or large business events with ease.

RATES: Please make your reservations early to guarantee this special rate. The special MWSUG room rate is $124 per night, and **does not include state and local taxes.**

RESERVATIONS: Please visit www.mwsug.org/det2006 and follow the link for Hotel Information. This will take you to a private webpage that will allow you to book at these special rates.

NON-SMOKING: Non-smoking rooms must be requested when making reservations. The hotel will make every effort to accommodate such requests subject to room availability.

<u>GETTING TO THE CONFERENCE</u>

By Air
Detroit Metropolitan Airport (DTW) is conveniently located just 15 minutes from Dearborn. Every major airline flies into Metro Airport. It is recommended that you take a cab or rent a car to get from Metro Airport to the Dearborn Inn. Estimated cab fare is $25 one-way.

This year, we are pleased to announce Northwest Airlines as an official carrier for MWSUG 17. They have arranged for the attendees to the conference the following discounts:

a) 10% discount off applicable published fares (15% discount on -26/-27 fares) if ticket purchase is at least 30 days before departure.
b) 5% discount off applicable published fares (10% discount on -26/-27 fares) if ticket purchase is less than 30 days before departure..
c) For zone products only, one name change is permitted per original ticket without penalty through the ticketing agent with no change to dates, origin, destination or stopover points.

Travel is permitted on Northwest and Northwest Airlink partners Pinnacle and Mesaba. Continental and Continental Express may be used only if connecting to or from a Northwest flight, using only designated Northwest flights.

Northwest will provide reservations and ticketing assistance at 1-800-328-1111, or you can make your reservations online at http://www.nwa.com. Please reference World File Number **NYUPX** for the MidWest SAS Users Group when making your reservations. To make reservations online, go to the Deals and News column and the Flights tab, and click on "NWA Discount Travel E-Cert Redemption", which is located at the bottom. On the Flight Search screen, click Login. Enter your WorldPerks number or Continue to login as Guest. Complete the Flight Search section and navigate to the bottom where you will see 'Do you have an E-Cert Fare, electronic voucher or meeting agreement?'. Select type (i.e. Meeting agreement (WorldFile number)) and then enter **NYUPX** in the Meeting WorldFile Number box and complete your transaction.

This discount is valid from October 12, 2006 to November 2, 2006, for air travel to Detroit, MI.

You may review fare and schedule information at the Northwest Airlines web site: http://www.nwa.com.

This discount will not apply if fewer than 10 fares are sold.

Car Rental

As a MWSUG conference attendee, you'll get unlimited mileage and year-round discounts of up to 20% off National's rates at approximately 3,000 locations in 72 countries across the globe. For information and reservations, call your travel agent or contact National® online or at 1-800-CAR-RENT®. Be sure to request Contract I.D. Number **5282865** at time of reservation. You can also reserve a car online, at http://www.nationalcar.com.

Discount applies to base rate only. Taxes (including GST/VAT), other governmentally-authorized or imposed surcharges, license recoupment/air tax recovery and concession recoupment fees, vehicle license fee, road fee, premium location charges, airport and airport facility fees, fuel, additional driver fee, one-way rental charge and optional items are extra. Renter must meet standard age, driver and credit requirements (may vary by country). Advance reservation required. May not be combined with other discounts. Availability is limited. Subject to change without notice. Offer valid at participating National locations. Blackout dates may apply.

Driving Directions

   From Detroit Metro Airport
      Take I-94 East to Detroit.
      Exit at Southfield Freeway North.
      Go 3 miles to Oakwood Blvd., left 2 miles.

   From Toledo, OH (I-75)
      Take I-75 North to M-39 North (Southfield Freeway)
      Go north to Oakwood Blvd., and left 2 miles.

   From Chicago, IL (I-94)
      Take I-94 East to Detroit.
      Exit at Southfield Freeway North.
      Go 3 miles to Oakwood Blvd., left 2 miles.

Parking: Hotel parking is free!

REGISTRATION DETAILS

Early registration fee is $295 per person. Forms may be faxed, mailed, or submitted to the online registration system. Fees must be received by September 22, 2006, to receive the discount. Regular registration fee is $340 per person and must be received by October 15, 2006. After that, and including on-site registration, the fee is $395 per person. There is a $20 surcharge for paper registrations.

All conference attendees are required to complete a registration form. Registration fee for presenters will be half price ($150), and must be received by September 22, 2006.

Students and Faculty: Student and faculty registration fee is $150 per person and must be received by September 22, 2006. After that date, students and faculty will pay the regular or on-site registration rate. In order to receive the academic rate, students must be enrolled full-time at an accredited academic institution, must register by September 22, 2006, and must FAX copies of their Student ID cards and current term's course registration to Michael Bramley at (513) 632-1021. Faculty members must FAX a copy of his/her valid College or University faculty ID card to Michael Bramley at (513) 632-1021. All supporting documents must be received by September 22, 2006, in order to receive the discount.

Group discounts: Registration for 10-19 people from the same company qualifies for a group discount of 10% off registration fees paid, and registering 20 or more qualifies for 20%. Please complete hard copy registration forms for each individual, and then submit these, together with a letter requesting the discount and the discounted payment amount, by the early registration deadline.

Forms of Payment: MWSUG accepts money orders, personal or company checks, and the following credit cards: Master Card, Visa, American Express, and Discover/Novus. We do not accept purchase orders nor do we prepare invoices.

Receipts: A confirmation email will serve as a receipt and will be sent within 10 days to those registering by the regular registration deadline. Receipt requests will be accepted at the registration desk and processed within 30 days from the conclusion of the conference. Please note, the online registration system provides valid receipts. Please contact conference registrar Michael Bramley, Michael.Bramley@us.dunnhumby.com, with questions.

MWSUG Tax ID: A 1099 form with applicable tax-id is available if requested by October 15, 2006.

Registration Refunds: Written requests for refunds will be honored in full when the request is postmarked by the regular registration deadline (October 15, 2006). Refunds will be processed within 6 weeks after the conference. FAX and email requests for refunds will not be accepted. No refund will be made for cancellations after the regular registration deadline, although a paid registration may be transferred to another person. The deadline for transferring registrations is Monday, October 2, 2006. Please contact the registrar for the correct process by which to do this.

Food: The registration fee includes refreshments at the Sunday evening reception, continental breakfasts on Monday and Tuesday, lunch on Monday and Tuesday, and the round-trip shuttle to Greektown on Monday evening. There will be a cash bar at the Sunday evening reception. All events with food will have vegetarian items included. If you have other dietary needs, please indicate this on the registration form. All special requests made in advance will be brought to the attention of the event chef who will determine how these needs are met.

Guest Passes: Guest passes may be purchased for the Sunday evening Opening Ceremony, the Sunday evening reception and mixer, the Monday lunch, the Monday evening Greektown shuttle, and the Tuesday lunch. *See the registration form.*

Nametags: Your nametag will be your admission to the entire conference. It is required to attend the presentations and mixers and serves as your ticket for lunches and other meal breaks. It is mandatory for admission to the Exhibit and Demo Area. Please wear your nametag in a visible location during the conference. All Conference participants must be registered, and only properly registered participants will receive a nametag. Replacement nametags can be purchased on site at the registration desk.

Pre and Post-MWSUG 17 Training Opportunities: We are pleased to again have several well-known SAS® System experts present full and half-day training seminars in conjunction with this year's conference. You can register for these sessions directly on the MWSUG conference registration form. MWSUG attendees receive a discount on tuition for these popular sessions. Also, the conference hotel lodging rate is available if you want to come to Dearborn before or stay after the conference, in order to attend these courses.

Refunds/Cancellations Policy for Training: MWSUG will not refund payments for seminar registrations unless: (a) The registration was made in error, and the registrant reports that error to MWSUG in accordance with whatever policies MWSUG implements for such situations; (b) The request for refund is made on or before the cut-off date on which an attendee can request refund of their conference registration fee; (c) -The attendee is recalled to active military service after registration for the seminar(s), and the registration cannot be transferred to another person;.(d)-Other compassionate grounds exist, which, in the joint opinion of the MWSUG 17 conference chairs and the affected instructor, warrant a refund; (e) The seminar is cancelled for any reason whatsoever, and the registered attendee declines to transfer their enrollment to another seminar offered in conjunction with MWSUG 17;.(f) unless a refund is granted due to compassionate circumstances, no refunds will be made if a registered attendee does not attend the class.

Training Seminar Cancellation: A seminar may be cancelled if there are four or fewer paid attendees enrolled as of October 12, 2006. Absent emergency or other unforeseen circumstances, all seminars for which there are five or more paid attendees as of October 12, 2006, will be held.

Transfer of Enrollment from One Training Seminar To Another: Enrollments can be transferred without penalty from one person to another, at the request of the registrant or registrant's employer, if the request is received on or before October 15, 2006. If a seminar is cancelled due to insufficient enrollment, instructor illness, or other reason, persons registered for that seminar will be encouraged to transfer their enrollment to another seminar offered in conjunction with MWSUG 17, if feasible. Cancellation of a training seminar, for whatever reason, is not grounds for refund of attendee's conference registration fees or tuition of other seminars.

Registration Form

In order to facilitate processing your registration, please:

- **complete a separate registration form for each person;**
- **be complete and write legibly (incomplete or illegible forms may not be processed);**
- **complete both sides;**
- **include payment, make a copy for your records;**
- **sign credit card authorization, if applicable;**

Visit our web site at http://www.mwsug.org/det2006 to register on-line!

First Name	Middle Initial	Last Name

Company/Affiliation

Address 1

Address 2

City

Phone

email

Conference registration fees (includes $20 paper surcharge)

Early (by September 22)	____	@$315 each
Regular (by October 15)	____	@$360 each
Late/On-Site (after Oct 15)	____	@$415 each
Presenter (by September 22)	____	@$170 each
Student/Faculty (by September 22)	____	@$170 each

Guest Passes

Sunday evening activities	____	@ $35 each
Monday lunch	____	@ $35 each
Monday Evening	____	@ $50 each
Tuesday lunch	____	@ $35 each

Total Amount Enclosed $_____

Method of Payment (please circle one)
Check or money order (payable to MidWest SUG), American Express, MasterCard, Visa, Discover/NOVUS

If paying by credit card:

Card #

Expiration Date

Name on Card

Signature

Pre- and Post-Conference Training Courses

	With conference registration	Without conference registration
Thursday		
06 Introduction to SAS, Part I		
8:00 AM – 5:00 PM	____ $300	____ $400
07 Using SAS/Access with Relational Databases		
8:00 AM – 5:00 PM	____ $300	____ $400
Friday		
08 Introduction to SAS, Part II		
8:00 AM – 5:00 PM	____ $300	____ $400
09 Whats New in SAS Version 9		
8:00 AM – 5:00 PM	____ $300	____ $400
Saturday		
10A Introduction to Java, Part I		
8:00 AM – Noon	____ $180	____ $250
10B Developing Java, Part II		
1:00 PM – 5:00 PM	____ $180	____ $250
11A The Nitty-gritty of Proc REPORT		
8:00 AM – Noon	____ $180	____ $250
11B Merging, Combining, Subsetting SAS		
1:00 PM – 5:00 PM	____ $180	____ $250
12 Basic Statistical concepts		
8:00 AM – 5:00 PM	____ $300	____ $400
13A ODS Tips and Techniques		
8:00 AM –Noon	____ $180	____ $250
13B Macro Programming Tips and Tricks		
1:00 PM – 5:00 PM	____ $180	____ $250
Sunday		
14A Intermediate ODS		
8:00 AM – Noon	____ $180	____ $250
14B Advanced ODS		
1:00 PM – 5:00 PM	____ $180	____ $250
15 Introduction to Enterprise Guide		
8:00 AM – 5:00 PM	____ $300	____ $400
16A An animated Guide to CDISC		
8:00 AM – Noon	____ $180	____ $250
16B An Animated Guide to Proc Transpose		
1:00 PM – 5:00 PM	____ $180	____ $250
17A Proc SQL: Beyond Basics		
8:00 AM – Noon	____ $180	____ $250
17B Advanced SAS Programming Techniques		
1:00 PM – 5:00 PM	____ $180	____ $250
Wednesday		
18 Exploratory Graphical Analysis		
8:00 AM – 5:00 PM	____ $300	____ $400
19 Using Functions and Arrays to manipulate data		
8:00 AM – 5:00 PM	____ $300	____ $400
Thursday		
20 Tips, Tricks, and SAS Techniques		
8:00 AM – 5:00 PM	____ $300	____ $400
21 SAS Efficiencies		
8:00 AM – 5:00 PM	____ $300	____ $400

Send completed form with payment to:	**FAX completed form with payment to:**
Michael Bramley Dunnhumby USA 302 W. 3rd Street, Suite 300 Cincinnati, OH 45202	Michael Bramley (513) 632-1021

☐ Check here if you have any special dietary needs or require any special assistance. The registrar will contact you for details.

☐ Check here if you do not wish to have your e-mail address added to the MidWest SAS Users Group mailing list. This list is only used to send notification of official MWSUG events.

Please answer the following questions to help us improve our conference planning. Answers should be based on your current plans, which we understand may change.

Transportation to conference: Accommodations:

☐ Drive   ☐ Stay at conference hotel

☐ Fly   ☐ Commute from home

☐ Train or other local transit ☐ Other (stay with friends, another hotel)

In order to plan these events please indicate your planned participation.

Do you plan to attend the:

Sunday opening session and mixer?	☐ Yes	☐ No
Monday Luncheon?	☐ Yes	☐ No
Tuesday Luncheon?	☐ Yes	☐ No
First Timers' Session on Sunday?	☐ Yes	☐ No

Please indicate which of the following are your top three interests.

Use "1" for your first choice, "2" for your second, and "3" for your third.

Applications Development	____
Database Management	____
Data Mining	____
Data Warehousing	____
Information Systems	____

Information Visualization	____
JMP	____
Statistics	____
Systems Architecture	____
Training/Support	____
Tutorials	____
Hands-On Tutorials	____
Internet Technologies	____

Please indicate which MidWest SAS Users Group Conferences you have attended.

☐ Minneapolis (1990)
☐ Chicago (1991)
☐ Kansas City (1992)
☐ Indianapolis (1993)
☐ Omaha (1994)
☐ Cleveland (1995)
☐ Minneapolis (1996)
☐ Chicago (1997)
☐ St. Louis (1998)
☐ Columbus (1999)
☐ Detroit (2000)
☐ Kansas City (2001)
☐ Indianapolis (2002)
☐ Minneapolis (2003)
☐ Chicago (2004)
☐ Cincinnati (2005)

How long have you been using SAS?   ____ years

Are you interested in volunteering to help at the conference?
☐ Yes ☐ No

Do you plan on attending the Monday evening Greektown outing (free with registration)?   ☐ Yes ☐ No
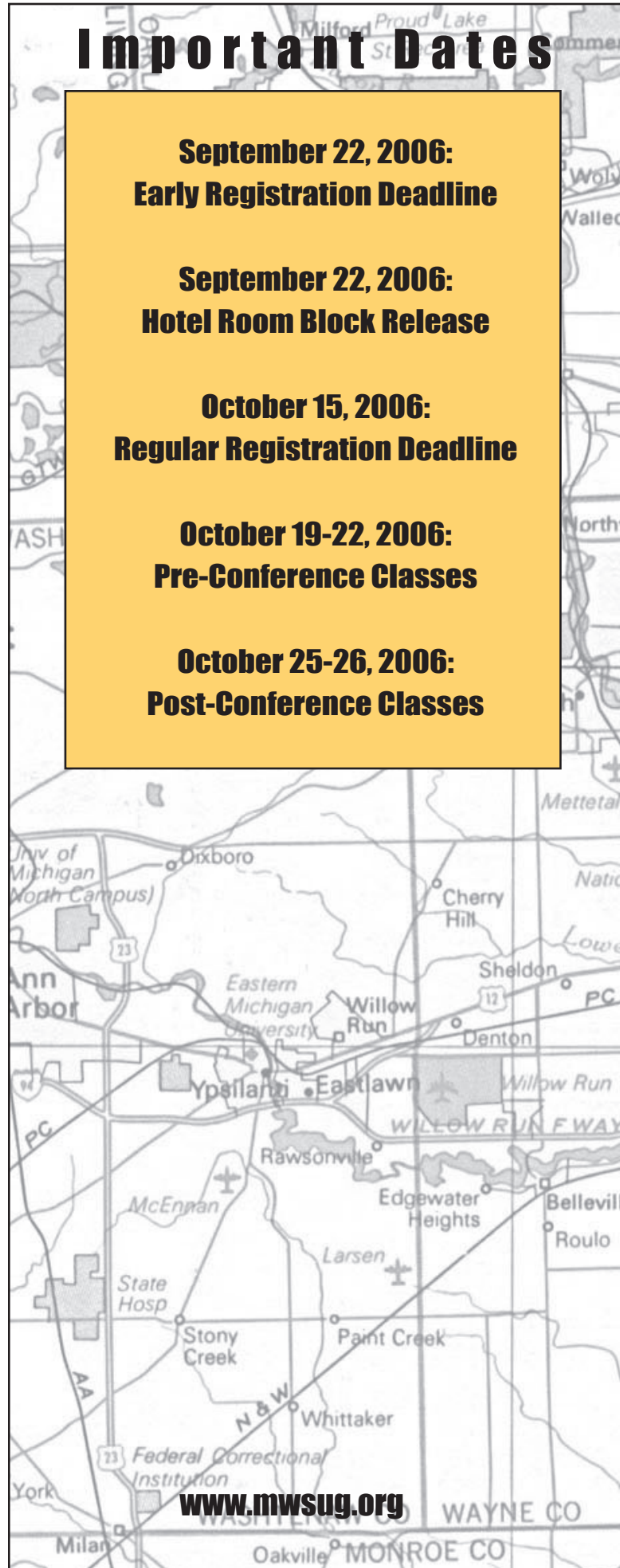
M i d W e s t   S A S ® U s e r s   G r o u p

MWSUG 2006

Detroit, Michigan
Oct 22-24

MWSUG 2006
SAS World Headquarters
100 SAS Campus Drive
Cary, NC 27513-2414

Important Dates

September 22, 2006:
Early Registration Deadline

September 22, 2006:
Hotel Room Block Release

October 15, 2006:
Regular Registration Deadline

October 19-22, 2006:
Pre-Conference Classes

October 25-26, 2006:
Post-Conference Classes

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