

Analytics • Forecasting • BIG data • DS2 • Database Query Optimization • ODS
SAS® for Email Send/Receive • Reporting • Best SAS to Excel • Data Visualization

For SAS Users from Illinois, Wisconsin, and Anywhere in the North Central USA

Wisconsin Illinois SAS Users Conference on June 24, 2015

At the Woman's Club of Wisconsin in Milwaukee

- ~ Learn from SAS experts and SAS users just like you in parallel sessions on SAS and SAS Analytics
- ~ Network with fellow SAS users (including at the post-conference social)
- ~ See SAS demos and get in-depth questions answered
- ~ Meet the indispensable **Andrea Littleton**, from SAS Institute's user event support team, who helped us with event planning and getting us the needed SAS Institute resources.

What to Expect at This International Event



Prof. David Dickey will provide an afternoon short course on forecasting. **Melodie Rush** from SAS Institute will present a tutorial on Bayesian modeling. **Erik Tilanus** (who LeRB calls "The Global Postmaster General of SAS Email") is coming from the Netherlands to explain how to use SAS to send and receive email, and how to design and build programs that easily cope with change. **Charu Shankar**, coming again from SAS Toronto, will talk about using SAS to meet the challenge of BIG data, and then how to manage BIG data with the new DS2 language. **George Hurley and John Steinmetz** are coming from New Jersey to present an Analytics paper as well as one on effective and efficient distribution of visually appealing reports. **Misty Johnson** will talk about optimization of SQL queries to databases. **Mark Menzie** will show you the power and value of the X command. **Daniel Fuhrmann** and **Doug Thompson** will present methods for evaluating healthcare interventions, and **Daniel** will present a paper on case studies of health-related quality of life measures. **LeRoy Bessler** will review and demonstrate the new ODS Excel destination which someday might be the needed single full-function tool to create highly formatted reports for Excel, and will present a tutorial on effective communication with color. In the **SAS Demo Room**, Melodie Rush will provide demos of SAS® Studio and Data Diagnostics using SAS® Enterprise Guide™, and you can meet **Mindy Kiss** from Experis. There will be Proceedings-Only slides, papers, and code on conference-related topics, and 2015 SAS Institute tip sheets (4) and examples handouts (4) for Data Visualization.

Proceedings/Tools - Conference slides/papers, a selection of other conference-topic-related slides/papers, code tools, and guided links to resources at SAS and around the world are provided for attendees.

SAS Books Bonanza – Not only will there be examination copies of Prof. Dickey's book and examination copies of four other SAS Books related to conference content, but ALSO every attendee: (1) will receive a free recent edition of the popular and always useful "The Little SAS Book"; and (2) will be able to select a free book to take from a variety of other SAS Press overstock titles. After the conference you will be able to order any SAS book at discount and with free shipping. The examination copies will be raffled off at end of the conference.

Conference Admission – Online registration or mail-in pre-payment must be received no later than June 17. We accept credit cards, personal check, company check, or money order, but no purchase orders. The fee includes admission, Conference Proceedings & Tools, continental breakfast, lunch, and beverages. **REGISTER EARLY. Space is limited. Registration information is on the last page of this brochure.**

Conference Site, etc. – There is free parking. See the second to last page for map and overnight accommodations.

Sponsors – We thank SAS Institute, Online MS in Marketing with a Specialization in Marketing Analytics - The University of Alabama Culverhouse College of Commerce, the Oklahoma State Spears School of Business, and Experis for their sponsorship and support! For how they can help with your SAS-related needs, see www.sas.com, www.BamaByDistance.ua.edu/sas, analytics.okstate.edu, and www.Experis.com.



We look forward to seeing you at the conference.

Craig Wildeman, Laura MacBride, Misty Johnson, and LeRoy Bessler
Your WIILSU Conference Team ~ www.wiilsu.org

For Questions about Registration: Craig at registrar@wiilsu.org or 920-457-4441

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Featured Visiting Speaker / SAS Press Author



David A. Dickey is William Neal Reynolds Distinguished Professor in the Department of Statistics at North Carolina State University, where he teaches graduate courses in statistical methods and time series. An accomplished SAS user since 1976 and prolific author, Dr. Dickey is a co-inventor of the Dickey-Fuller test used in SAS/ETS® software. He received his Ph.D. in statistics from Iowa State University in 1976, is a fellow of the American Statistical Association, and a member of the Institute of Mathematical Statistics. Prof. Dickey lives in Raleigh with wife Barbara. They have two married children, Dr. Michael Dickey, an NCSU Chemical Engineering Professor, and Susan Dickey McShane, a graphic artist. They have two young granddaughters, Aliyah and Emerson Dickey, and a grandson Declan McShane.

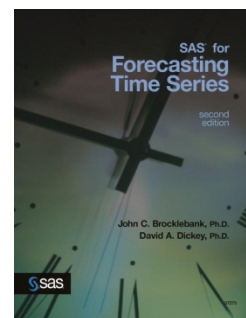
Dr. Dickey is a contract instructor for SAS and has spoken at many SESUG, SUGI, and SAS Global Forum conferences and in Milwaukee at MWSUG 2010 and at the 2011 Wisconsin Illinois SAS Users Conference. He began working with SAS in 1981 and teaches or has taught time series, mixed models, regression and ANOVA, experimental design, IML, multivariate analysis, mixed models, generalized mixed models, and nonlinear mixed models at SAS locations and companies in the US, Canada, and New Zealand.

Professor Dickey has coauthored several text books including Principles and Procedures of Statistics, third edition (Steel, Torrie, and Dickey), Applied Regression Analysis (Rawlings, Pantula, and Dickey), and Linear Statistical Models (Bowerman, O'Connell, and Dickey). For SAS Press, he coauthored SAS System for Forecasting Time Series, first and second editions (Brocklebank and Dickey).

In 1993, Dr. Dickey was initiated into NC State's Academy of Outstanding Teachers. In 2000, he was made a Fellow of the American Statistical Association in recognition of his teaching and time series research. In 2008, he was inducted into NC State's Academy of Outstanding Faculty Engaged in Extension and, in recognition for his work with the College of Agriculture and Life Sciences, was awarded the William Neal Reynolds Chair. Professor Dickey is on the advisory board and on the faculty of the Institute for Advanced Analytics, offering three modules in their one-year intensive masters' degree program. He is a member of the Financial Math faculty at NCSU as well, but still has his main appointment in the Department of Statistics.

SAS for Forecasting Time Series, Second Edition

In this book, Brocklebank and Dickey show you how SAS performs univariate and multivariate time series analysis. Taking a tutorial approach, the authors focus on the procedures that most effectively bring results: the advanced procedures ARIMA, SPECTRA, STATESPACE, and VARMAX. They demonstrate the interrelationship of SAS/ETS procedures with a discussion of how the choice of a procedure depends on the data to be analyzed and the results desired. With this book, you will learn to model and forecast simple autoregressive (AR) processes using PROC ARIMA, and you will learn how to fit autoregressive and vector ARMA processes using the STATESPACE and VARMAX procedures.



Other topics covered include detecting sinusoidal components in time series models, performing bivariate cross-spectral analysis, and comparing these frequency-based results with the time domain transfer function methodology. New and updated examples in the second edition include retail sales with seasonality, ARCH models for stock prices with changing volatility, vector autoregression and cointegration models, intervention analysis for product recall data, expanded discussion of unit root tests and nonstationarity, and expanded discussion of frequency domain analysis and cycles in data.

We thank SAS Institute, Online MS in Marketing with a Specialization in Marketing Analytics - The University of Alabama Culverhouse College of Commerce, the Oklahoma State Spears School of Business, and Experis for sponsorship and support! For how they can help with your SAS-related needs, please see www.sas.com , www.BamaByDistance.ua.edu/sas , analytics.okstate.edu , and www.Experis.com .

This Conference Brought To You By:



LeRoy Bessler
Speaker, Volunteer
DentaQuest
Mequon, Milwaukee, WI



David Dickey
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North Carolina State Univ
Raleigh, NC



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Univ of Wisconsin-Milwaukee
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Presentation Abstracts and Information about Speakers & Volunteers

SAS Section

Using SAS as Your Mail Room: An Introduction to the SAS E-mail Interface

Erik Tilanus, Synchrona

You can send e-mail directly from your SAS programs. For instance, it is possible to send program-generated output either as attachments or as formatted reports in the body of an e-mail, to alert interested parties about irregularities found by your program, or even send a newsletter to a long list of addressees. You can also read incoming mail: it is relatively easy to make the DATA step function as a POP3 mail client. With this functionality you can receive and process incoming email. This presentation will discuss the basics of sending and receiving e-mail using SAS, including mass mailings and handling of incoming or outgoing attachments. Note: The revenue management system in my other presentation uses both outgoing and incoming mails to interact with the revenue. **Note from Editor:** This excellent tutorial presentation will be accompanied by a comprehensive paper in excess of sixty pages.

Erik Tilanus holds an MSc from Eindhoven University of Technology. He joined KLM Royal Dutch Airlines in 1971, working in several positions within the IT organization. In 1979 he was responsible for the introduction of SAS to the KLM organization. Later he moved to other specialist and managerial positions within KLM. In most of those functions he continued the use of SAS. In 2003 he left KLM and started his own consultancy for smaller airlines, specializing in reservations systems and revenue management. He has presented SAS basic courses and advanced courses to several organizations and wrote the book “Working with the SAS System” based on his course notes. Currently the book is only available in the Dutch language. Erik has been a frequent invited speaker at the SAS Global Forum.

Report Distribution, Made Easy and Actionable

George Hurley and John Steinmetz, Plymouth Rock Assurance

The key to success in any company is to keep a careful eye on how money is being spent, or how a product or campaign is performing, and doing so on a regular basis. In this paper we review some effective and efficient ways to distribute visually appealing results to a wide audience! We explain in depth how to do that, and what is being done by SAS behind the scenes. The examples use freely available third-party data, so that you can easily experiment with, and further adapt, our code at your own site.

George Hurley is Consumer Marketing Director at Plymouth Rock Assurance located in Red Bank, NJ. He has presented at numerous SAS Global Forums, MWSUGs, WILSU, and other events. He has an MS in Applied Statistics from Wright State University in Dayton, Ohio. He always enjoys a return to the Midwest to speak.

John Steinmetz is the Supervisor of Consumer Marketing at Plymouth Rock Assurance, located in Red Bank, NJ. John first started using SAS in 2013, and has attended two MWSUG conferences since then. He graduated from DeVry University in North Brunswick, New Jersey, with a Bachelor's degree in Computer Information Systems with a concentration in Database Management. He's looking forward to speaking at WILSU.

Helping Your Programs Cope with Change

Erik Tilanus, Synchrona

A parameter is well defined with the saying: “A parameter is a constant with the nasty property of being variable.” In any program you write there will be such parameters, for instance a department code or a tax percentage. Even if you do not yet envision that the parameters might change, it is still a good programming practice to avoid having them hard-coded within the main body of your program. Using a simple airline revenue management system as an example, several techniques will be explained that you can use to separate situation-specific parameters from your program. These techniques vary from simple %LET statements at the top of your program to separately stored parameter tables.

Using SAS to Handle the Challenges of Big Data

Charu Shankar, SAS Institute

Big data is nothing new. It has been around a long time. Most organizations can't generate all of the information they need. They can't generate information fast enough to act on it. They continue to incur huge costs due to uninformed decisions and misguided strategies. In this session, you will learn about the gap between organizational tools, skill sets, and big data that hits desks every single day, the 3 V's of big data—volume, variety, and velocity, the problem with data preparation, and the shortage of talent. And you will learn to appreciate, if you don't already, what a challenge it is to work with big data. One of the key principles of performing speedy analytics on big data is to split the data across multiple processors and disks, to send the code to the distributed processors and disks, have the code run on each processor against its subset of data, and to collate the results back at the point from which the request was originally made. Thus, we're sending code to the data rather than pulling the data to the code. It's quicker to send a few dozen lines of code to many processors than it is to pull many millions of rows of data to one (big) processor. Learn how I/O is reduced when code is sent to the database appliance.

Charu Shankar has been a Technical Training Specialist with SAS since 2007. Before SAS, Charu worked at UNESCO, Rotman School of Management, and other places. She started her career as a programmer. At SAS, she teaches the SAS programming language, SQL, SAS Enterprise Guide™, and BI. She enjoys teaching by engaging her students with logic, visuals, and analogies to spark critical reasoning. Skilled in customer needs analysis, Charu frequently interviews clients to recommend the right SAS training to help meet their needs. She is a frequent blogger for the [SAS Training Post](#). In her spare time she is a singer, yoga teacher, and a food [blogger](#).

Manage Big Data with DS2 - The Last Language You Will Ever Learn :)

Charu Shankar, SAS Institute

New to SAS 9.4, DS2 programming language is part of Base SAS. It represents an intersection between the SAS Data Step and ANSI:SQL:1999. DS2 has many similarities to the traditional Data Step. DS2 uses object-oriented programming syntax, which has been around as early as the mid 60's, but didn't really become popular until C++ arrived in the early 90's. It is a different way of coding than the previous dominant style, procedural programming. The aim of object-oriented programming is to try to increase the flexibility and maintainability of programs. Because programs created using an OOP language are modular, they can be easier to develop, and simpler to understand after development. DS2 enables you to run your code in threads to make it finish its job more quickly. This is a big contrast to the Data Step that runs on a single thread. Benchmarking statistics to show how CPU time is reduced with DS2 will be shared.

Using Color to Communicate, Not to Decorate

LeRoy Bessler, DentaQuest

The principles of effective use of color to communicate, rather than decorate, are software-independent, but this tutorial, for any data visualization or reporting situation, includes tips specific to SAS, Excel, or the web. When it comes to the pitfalls of, and best practices for, using color, you don't know what you don't know. This tutorial can help you paint a better picture of your data. As a companion to the paper and the slides, attendees will receive a convenient one-page handout "Principia Color", a.k.a., "Bessler's Fifteen Principles for Communication-Effective Use of Color: A Tip Sheet for Users of Color for Text, Tabular Reports, Spreadsheets, Web, Graphs, or Maps". It will be published in English, not Latin. (The Latin word for the English word "color" is "color".)

Dr. LeRoy Bessler is Senior Data Scientist at DentaQuest. He has presented at software user conferences in the US, Canada, and Europe, on effective visual communication (using graphs, tables, web pages, or color), highly formatted Excel reporting from SAS, his tools to assist SAS server administrators, users, and managers, and Software-Intelligent Application Development to maximize Reliability, Reusability, Maintainability, Extendibility, and Flexibility. His SAS experience includes application development and supporting users, servers, software, and data. He has organized SAS users conferences since 1989.

Just Passing Through... Or Are You?

Determine When SQL Pass-Through Occurs to Optimize Your Database Queries

Misty Johnson, Wisconsin Department of Health Services

SAS/ACCESS® has two recommended methods for accessing relational database management systems (DBMS's), namely, the SAS/ACCESS LIBNAME engine and the Structured Query Language (SQL) Pass-Through Facility. This paper describes the use of the open database connectivity (ODBC) LIBNAME engine with SAS code that does and does not invoke implicit SQL pass-through and its effect on run time. Also described is the use of the system options DEBUG and SASTRACE to determine whether implicit SQL pass-through occurred, what triggers implicit SQL pass-through, and the potential time savings. Knowledge of these methods, their triggers, and tracking options enables the intermediate SAS programmer to select the most efficient coding strategy.

Misty Johnson, from Brooklyn, Wisconsin began using SAS in 1998 during graduate school. Misty holds a Master's degree in Agricultural Engineering and first used SAS to run statistics on milking research data at the University of Wisconsin-Madison. Her love of SAS programming and research brought her to the State of Wisconsin Department of Health Services as a programmer and analyst in 2003. Misty is a SAS Certified Advanced Programmer for SAS 9.

Put the Shortest SAS Command to Work for You: How to Use X for Fun and Profit

Mark Menzie, Assurant Health

Would you like to access the power of your operating system from within SAS? How about teaching your programs to clean up after themselves? Did you know that SAS can compress your output files to save space? Would you like to make your programs interactive? All of this and more can be yours for the low, low price of a single letter X command. This presentation will focus on a few examples using the SAS X command with Windows to show you its versatility. We'll use it to move, compress, and delete files, and to trigger asking our users questions and use those answers to control program flow. Along the way we'll touch on the Windows command tool PowerShell SAS environment settings which are needed to enable the full capability of the X command and PowerShell.

Mark Menzie has been an Analyst at Assurant Health for 14 years. During that period he has used SAS to support Product Implementation, Reporting, and File Management tasks. Mark was SAS Certified as a Base Programmer for SAS9 in 2010 and holds the Fellowship Life Management Institute (FLMI) designation. Mark is an avid chess player and walker.

The New SAS ODS Excel Destination: A User Review and Demonstration

LeRoy Bessler, DentaQuest

The common destination for SAS-prepared results is often an Excel workbook. Everyone already has Excel and knows how to use it, to reformat or further explore their results however they wish. But SAS programmers want only one SAS tool to meet all of their highly formatted Excel reporting needs. Since June 2013, I have provided vigorous comparisons of five (Yes, 5) different ways of Excel Reporting from SAS: HTML, ExcelXP, MSOFFICE2K_X, TableEditor, and Dynamic Data Exchange (DDE). Deemed by me as inadequate compared to MSOFFICE2K_X, I omitted the MSOFFICE2K destination, but even it has its distinct advantages. DDE is clearly the strongest solution, and I still get requests for my DDE ToolKit from around the world, but it can be clumsy to work with if you have to run SAS on a remote server (especially via SAS Enterprise Guide), rather than on your own PC). The new SAS ODS Excel destination, which is available in pre-production experimental status in SAS 9.4 TS1M2, is intended to provide relief from the too many partial SAS solutions and to add capabilities not available in any of the partial solutions. It will not have the disadvantages of DDE. As of the date of this abstract, there is no formal documentation available. I will show you what I have been able to do with the new ODS Excel technology, including production status features available in SAS 9.4 TS1M3 which is expected to be available in July, and will provide a user-created substitute for unavailable vendor documentation. I'm really excited about this long desired solution to an important and popular need. (An interesting feature in TS1M3 is the ability to combine ODS EXCEL and the new ODS Graphics PROC MSCHART to produce Excel Charts in your spreadsheet created from SAS. Note that PROC MSCHART will be pre-production experimental status.)

SAS Analytics Section

Bayesian Modeling Using SAS/STAT®

Melodie Rush, SAS Institute

Bayesian statistics is big. Our customers are requesting it, and SAS has been making a considerable R&D investment in Bayesian analysis. And for good reason—Bayesian analysis provides a disciplined way of combining prior information with data, within a solid decision theoretical framework. This presentation will answer the question: “What is Bayesian Analysis and why is it important?” It will provide an overview of the three options for implementing Bayesian Analysis in SAS/STAT: (1) through Bayesian methods in commonly used SAS/STAT procedures; (2) through the MCMC Procedure; and (3) through special Bayesian applications. This presentation will provide examples for each option.

Melodie Rush is the Statistician for the Customer Loyalty Team at SAS Institute. Melodie received both her B.S. in Statistics and her Masters in Science of Management with a technical option in Statistics from North Carolina State University. Before joining SAS in 1996, Melodie worked for Research Triangle Institute as a Statistician. Her responsibilities included implementing national and local surveys of various topics, such as health care, employee benefits, and drug abuse. As part of her research, she has published work for both the American Statistical Association and the American Public Health Association. After joining SAS, Melodie has developed presentations and methodology for doing many types of analysis, including data mining, forecasting, data exploration and visualization, quality control, and marketing. She has spent the last 19 years helping companies identify and solve problems in each of these analytical areas.

Confirmatory Factor Analysis and Scale Reliability Coefficients: Case Studies of Health-Related Quality of Life Measures

Daniel Fuhrmann, Center for Applied Behavioral Health Research, University of Wisconsin-Milwaukee

This study reports the feasibility, reliability, and factorial structure of the 36-item Short-Form Health Survey (SF-36) in an urban low-income sample of African-American women. Data from participants were analyzed. The SF-36 was administered in electronic format during personal interviews conducted between August 3rd, 2009 and July 3rd, 2013. Feasibility (number of missing cases per item) and internal consistency (Cronbach's alpha) of the measure were assessed. The factorial structure of the SF-36 was investigated using confirmatory factor analysis performed in both SAS/STAT (PROC CALIS) and Mplus. Missing values in the full sample data set (N=277) were checked for item- and person-wise response. Twelve women were excluded from the analyses, having answered less than 75% of the items on the SF-36 (one woman did not respond to 33 questions and 11 women did not respond to all 36 questions). For feasibility, the maximum item-nonresponse was 13 missing responses on one item (item 19 on the “emotional health problems scale”. The modal item-nonresponse was 12 missing responses, or 4.33% of the sample, on 32 items. Finally, the minimum item-nonresponse was 11 missing responses on three items. The mean score for the General Health scale was 63.679 (SD=21.091). The Cronbach's alpha of the General Health scale exhibits good internal consistency (alpha= .7889). Finally, confirmatory factor analysis confirms that the factor structure for our specific population of urban low-income African-American women was acceptable and comparable with previous findings. These findings have implications for the use of the SF-36 with urban low-income African-American women.

Dr. Fuhrmann serves as Associate Scientist and Statistician in the Center for Applied Behavioral Health Research at UW-Milwaukee where he is responsible for data management, statistical analyses, grant and report writing, and publication and presentation preparation. Dr. Fuhrmann provides consultation to students, faculty, and staff on methodology, statistics, software, and technology that pertain to their research activities. As Coordinator of UW-Milwaukee's Graduate Certificate in Applied Data Analysis Using SAS, he teaches workshops and graduate-level courses in SAS Programming, Applied Statistics, Data Mining, and Predictive Modeling. Dr. Fuhrmann earned both an M.A. and a Ph.D. in Economics (specialization in Health and Applied Microeconomics) from the University of Wisconsin-Milwaukee and completed his Intermediate Diploma in Business Administration and Economics at the University of Potsdam (Germany).

Thundercell at 12 - Recreating an Old Tool with Newer Tech

George Hurley and John Steinmetz, Plymouth Rock Assurance

12 years ago, a paper coauthored by George Hurley and David Hengehold presented the use of Principal Components Analysis to visually order a correlation grid and understand relationships between variables in two dimensions. At the time, this involved intense code with intervention from VBA. We discuss the still useful method of grouping variables in 2D, and newer code and tools to get to the same place, using both traditional SAS tools such as Base SAS and SAS/STAT as well as JMP.

George Hurley is Consumer Marketing Director at Plymouth Rock Assurance located in Red Bank, NJ. He has presented at numerous SAS Global Forums, MWSUGs, WILSU, and other events. He has an MS in Applied Statistics from Wright State University in Dayton, Ohio. He always enjoys a return to the Midwest to speak.

John Steinmetz is the Supervisor of Consumer Marketing at Plymouth Rock Assurance, located in Red Bank, NJ. John first started using SAS in 2013, and has attended two MWSUG conferences since then. He graduated from DeVry University in North Brunswick, New Jersey, with a Bachelor's degree in Computer Information Systems with a concentration in Database Management. He's looking forward to speaking at WILSU.

Instrumental variable methods for evaluating healthcare interventions using SAS

Daniel Fuhrmann, Center for Applied Behavioral Health Research, University of Wisconsin-Milwaukee

Doug Thompson, Presence Health

Healthcare expenditures in the United States have increased at an unsustainable rate, reaching 18% of GDP in 2011. There is a need to find ways to reduce healthcare spend while maintaining healthcare quality. Numerous interventions to reduce healthcare spend have been proposed and implemented. It is crucial to accurately evaluate which interventions are most effective. The gold standard method for evaluation is the randomized controlled trial (RCT), but conducting it is sometimes infeasible. There are several alternative approaches when RCTs are not feasible, including matching, regression adjustment, and instrumental variable regression. This presentation focuses on instrumental variable methods. The goal is to find an “instrumental variable” (IV) that is strongly associated with the intervention selection, but is not directly associated with the outcome variable. The IV is then used to estimate an intervention effect that is independent of observable factors, mimicking randomization. The instrumental variable method is illustrated in the context of a study comparing healthcare costs in private “gatekeeper” insurance plans (which typically involve care coordination through a primary care physician) with other private insurance plans, using data from the Medical Expenditure Panel Survey (MEPS). The results are summarized, and SAS code to implement the method is described.

*Doug Thompson, PhD, is System Director, Population Health Analytics for Presence Health, one of the largest health delivery systems in Illinois with 12 hospitals and 150 sites of service. Prior to Presence Health, Dr. Thompson led healthcare analytic teams for Blue Cross Blue Shield of IL, MT, NM, OK and TX, and Assurant Health. Dr. Thompson has 15 years of experience using **Base SAS, SAS/STAT, SAS/ETS®, and SAS® Enterprise Miner™**. He has used SAS for statistical analyses in more than 45 peer-reviewed publications.*

Adventures in Forecasting - Ideas and Examples

David A. Dickey, North Carolina State University

SAS has a whole suite of tools for forecasting and analysis of data taken over time. While these procedures can have a different look and feel from procedure to procedure, they are for the most part based on autoregressive integrated moving average models or ARIMA models. Starting from the beginning, this tutorial explains what is meant by an ARIMA model and shows how to identify and estimate an appropriate ARIMA model for your data complete with examples. Incorporation of polynomial trends and other types of inputs is then discussed. An important aspect of such analysis is the decision as to whether the original series or the resulting series of changes is the more fit for analysis. Ways to make this decision will be discussed. Time series data are often seasonal, and methods for modeling seasonal time series will also be covered, again with examples.

Proceedings-Only Content

Why & How To Use SAS Macro Language:

Easy Ways To Get More Value & Power from Your SAS Software Tools

LeRoy Bessler, DentaQuest

SAS Macro Language and macro variables (a.k.a. symbolic variables) let your SAS program do things for you that would ordinarily require you to make manual changes to your code every time you run it (e.g., changing title text, changing data filters, graph controls, etc.) Whenever you change your code, not only does it take extra time, but also there is a risk of inadvertently introducing an error. SAS Macro Language makes code situation-adaptive. It can adapt to changes in data, run date, data date, data date range, etc. It is an essential tool for Software-Intelligent Application Development, which delivers Reliability, Reusability, Maintainability, Extendability, and Flexibility. Strong Smart Systems are essential for production programs that are run by automatic batch scheduling or must respond in a custom fashion in real-time to interactive requests. Such programs must run hands-off every time. Code using macro language also saves time and reduces error risk for ad hoc work. Any supposedly one-time ad hoc code you build has the possibility of being needed again, very likely with minor variation, to satisfy a future request for analysis, report, or data. Programs that are basically similar, but with minor variations in purpose and output, need to differ only in macro invocation code, which is easy to find and understand, as compared to changes buried somewhere in a huge number of lines of SAS code. This introductory tutorial will get you started using a powerful feature of Base SAS software that you already have, and which can be used with all of your other SAS software products as well. **NOTE:** Both slides and a paper are provided.

Software-Intelligent Application Development and the Reality of Computer Code Maintainability

LeRoy Bessler, DentaQuest

As a long-time programmer, I have read and heard many claims about tools and methods that were guaranteed to make it easy to maintain code. This little paper first presents the conclusions that I reached very early in my experience as a programmer about the challenge of program maintainability, presented as three theorems and a mathematically-expressed corollary. It closes by addressing how to cope with the sad truth of the Third Theorem: “The only safe program change is no change.” The paper provides two references on Software-Intelligent Application Development.

SAS to Excel - OLD ODS Methods & DDE Comparison - Slides, Code, Reference Doc

LeRoy Bessler, DentaQuest

This includes a comparison of the old ODS methods and the DDE method for creating highly formatted reports with SAS that can be opened with Excel, SAS code to demonstrate them, and files of supporting documentation.

SAS with Excel - DDE Method Only - Paper, Slides, Code, Output, ToolKit

LeRoy Bessler, DentaQuest

This includes a demo slide presentation of creating a SAS-sourced report for Excel using DDE, the SAS code, SAS log, and Excel result from that demo, my lengthy paper “SAS to Excel: Give Them the Report Exactly the Way That They Want It”, as well as my DDE toolkit—a SAS-with-Excel self-study collection of sixty macros and twenty-six sample programs (with comments), and supporting files.

Conference Team

Craig Wildeman is Treasurer, Registrar, email manager, and webmaster. Craig is a Senior Systems Project Leader in the Quality Department of the Cast Iron Division at Kohler Co. **Laura MacBride** handles all conference communications and publications, and serves as SAS (non-analytics) Section Chair. She is a Research Analyst in the Office of Institutional Research and Analysis at Marquette University. **Misty Johnson**, an Analyst for the Wisconsin Department of Health Services, is SAS Analytics Section Chair. **LeRoy Bessler** is Senior Data Scientist at DentaQuest, and serves as conference coordinator and artistic director.

Wisconsin Illinois SAS Users Conference Agenda – June 24, 2015
Woman's Club of Wisconsin, 813 E. Kilbourn Ave., Milwaukee, WI 53202, 414-276-5170

8:30 Registration Check-In

9:00 Welcome

LeRoy Bessler, Conference Coordinator

9:10 Using SAS as Your Mail Room: An Introduction to the SAS E-mail Interface

Erik Tilanus, Synchrona

10:05 Report Distribution, Made Easy and Actionable

George Hurley & John Steinmetz, Plymouth Rock Assurance

10:25 Break

SAS SECTION (MAIN ROOM)

10:45 Helping Your Programs Cope with Change

Erik Tilanus, Synchrona

11:10 Using SAS to Handle the Challenges of Big Data

Charu Shankar, SAS Institute

12:00 Lunch

1:00 Manage Big Data with DS2 – The Last Language You Will Ever Learn :)

Charu Shankar, SAS Institute

1:55 Using Color to Communicate, Not to Decorate

LeRoy Bessler, DentaQuest

2:20 Just Passing Through... Or Are You? Determine When SQL Pass-Through Occurs to Optimize Your Database Queries

Misty Johnson, Wisconsin Department of Health Services

2:50 Break

3:00 Put the Shortest SAS Command to Work for You: How to Use X for Fun and Profit

Mark Menzie, Assurant Health

3:55 The New SAS ODS Excel Destination: A User Review and Demonstration

LeRoy Bessler, DentaQuest

SAS ANALYTICS SECTION (BREAKOUT ROOM)

9:10 Bayesian Modeling Using SAS/STAT

Melodie Rush, SAS Institute

10:05 Confirmatory Factor Analysis and Scale Reliability Coefficients:

Case Studies of Health-Related Quality of Life Measures

Daniel Fuhrmann, Center for Applied Behavioral Health Research, University of Wisconsin-Milwaukee

10:25 Break

10:45 Thundercell at 12 - Recreating an Old Tool with Newer Tech

George Hurley & John Steinmetz, Plymouth Rock Assurance

11:10 Instrumental variable methods for evaluating healthcare interventions using SAS

Daniel Fuhrmann, Center for Applied Behavioral Health Research, University of Wisconsin-Milwaukee

Doug Thompson, Presence Health

12:00 Lunch

1:00 Adventures in Forecasting - Ideas and Examples

David A. Dickey, North Carolina State University

2:50 Break

3:00 Adventures in Forecasting - Ideas and Examples (Continued)

David A. Dickey, North Carolina State University

4:40 Return to Main Room

SAS SECTION (MAIN ROOM)

4:45 Conference Closing

5:00 Post-Conference Networking Social

All attendees, volunteers, and speakers who can stay

NOTE: Order of speakers above might need to change without notice.
See the Next Page for Demo Room Schedule and Proceedings-Only Content

Demo Room

Sponsor – will be present most of the day

Mindy Kiss, Experis

Gaining Competitive Advantage and Generating Success with Experis

Speakers and Authors – will be present during the times shown

10:05-11:05

Melodie Rush

Discussion Topic: Data Diagnostics in Enterprise Guide

Discussion of data diagnostics for your analytical analysis, including how to describe data (descriptive statistics), graph the data, detect and deal with outliers, assess normality, transform variables in order to meet assumptions (transformations), and sample (for modeling purposes).

12:00 Lunch

1:00-1:50

Melodie Rush

Discussion Topic: Introduction to SAS Studio

SAS Studio is a web-based interface for SAS. With SAS Studio, you can access your data files, libraries, and existing programs, and you can write new programs. You can also use the predefined tasks in SAS Studio to generate SAS code. When you run a program or task, SAS Studio connects to a SAS server to process the SAS code. After the code is processed, the results are returned to SAS Studio in your browser. This session introduces users to SAS Studio.

Proceedings-Only Content

Why & How To Use SAS Macro Language: Easy Ways To Get More Value & Power from Your SAS Software Tools

Slides & Paper

Software-Intelligent Application Development and the Reality of Computer Code Maintainability

Paper

In case you don't have access to the new ODS EXCEL destination:

SAS to Excel - OLD ODS Methods & DDE Comparison - Slides, Code, Reference Doc

Zip File – 7.14 MB

SAS with Excel - DDE Method Only - Paper, Slides, Code, Output, ToolKit

Zip File – 4.10 MB

All items above provided by LeRoy Bessler.

Not included in the Proceedings and Tools Package

Tip: If you want to create an Excel Pivot Table from SAS, the best reference available is:

“The Armchair Quarterback: Writing SAS Code for the Perfect Pivot (Table, That Is)”

By Peter Fernwood and Louanna Kong

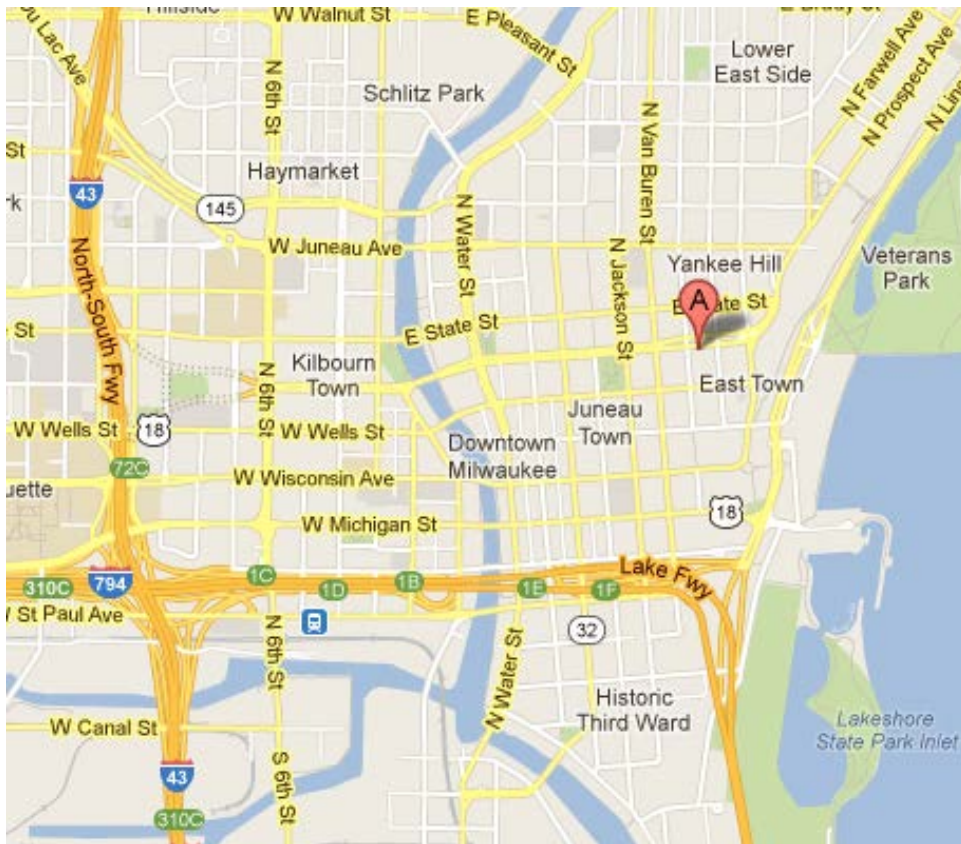
<http://support.sas.com/resources/papers/proceedings12/146-2012.pdf>

Map

Woman's Club of Wisconsin

813 East Kilbourn Avenue, Milwaukee, WI 53202

Telephone: 414-276-5170



The **Woman's Club of Wisconsin** is located at 813 East Kilbourn Avenue, at the intersection of East Kilbourn Avenue and North Cass Street. The Club entrance has a discreet marquee. (Handicapped entry is also available.)

The Club Parking Lot

is one block South, at the intersection of East Wells Street and North Cass Street. **Attendees can self-park in the Club lot or may use Valet Parking if desired.**

NOTE: There is notable road construction in the area, including along 794. Please consult <http://www.511wi.gov/Web/> for information about work zones and detours.

Some Overnight Accommodation Alternatives Near the Conference Site:

University Club (Mention the conference to get our rate at this Club. Book early. Rooms are limited.)

414-271-2222 <http://universityclubmil.com/>

County Clare Irish Inn & Pub

414-272-5273 <http://countyclare-inn.com/>

Park East Hotel

800-328-7275 <http://www.parkeasthotel.com/>

Hotel Metro

877-638-7620 <http://www.hotelmetro.com/>

The Pfister Hotel

800-558-8222 <http://www.thepfisterhotel.com/>

Hyatt Regency

414-276-1234 or 888-591-1234 <http://milwaukee.hyatt.com/hyatt/hotels/>

Intercontinental Milwaukee

414-935-5943 or 800-954-4667 <http://www.intercontinentalmilwaukee.com/>

The Astor Hotel

800-558-0200 <http://theastorhotel.com/>

Registration & Payment Information and Optional Mailing List Form

SAS Users Conference – June 24, 2015 – Registration in Advance Only

Our online registration system allows us to accept credit cards or checks. You will get a confirmation email when you complete your registration. If you prefer to pay by check, please fill in the online system, but select check payment and send a check to the address stated in the online system. You will receive a confirmation email when your check has been received.

Registration Fee – \$40

Full-Time Students – You can register for \$20 if you are enrolled full-time at a degree-granting institution. You just need to email proof (student id) of your enrollment to registrar@wiilsu.org, and we will email you instructions on how to register at the \$20 rate.

If payment is not received by June 17, you will not be allowed to attend the conference.

Cancellations will not be accepted unless received before June 17. To cancel a registration, please edit your online registration and select unregister. If you pay by credit card and need to cancel, your credit card will be refunded what you paid. If you paid by check, it will be sent back to you as soon as possible. You cannot substitute someone for your registration.

Online Registration site: www.wiilsu.org

For questions about registration,
contact our Registrar Craig Wildeman at 920-457-4441 x-72118 or registrar@wiilsu.org.

NOTE: Order of speakers on the agenda might need to change without notice.

Please Use This Section To Request Adds, Changes, or Deletions To Our Mailing List:

If you are not attending the conference and want to receive future mailings, please use this form to get on our mailing list. If you need to make corrections to our mailing list, please use this form. Please include your email address. Consider using one that is unlikely to change.

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