

NEBRASKA SAS® USERS GROUP

nebsug.org



2019 ONE-DAY CONFERENCE

TUESDAY, May 14, 2019

7:45am – 3:30pm*

Scott Conference Center

6450 Pine St, Omaha NE 68106



Conference Co-Chairs:

Robin High --- University of Nebraska Medical Center

Anne O'Keefe --- Douglas County Health Department

*check in and breakfast opens at 7:45am

*opening session starts at 8:15am

schedule on page 5

Sponsors:



Message from Co-Chairs

Dear Nebraska SAS® Users,

The Nebraska SAS Users Group 2019 One-Day Conference will be held on Tuesday, May 14th in Omaha at the Scott Conference Center. Choose from three concurrent presentation sessions that cover a diverse set of presentations which will help to grow your SAS skills and will cover a wide variety of topics and interests. Presentation sessions are scheduled in 50 minute sessions throughout the day. SAS Institute, Inc. will have three experts presenting the most recently developed methods on how to use SAS.

This year the opening keynote address features Amy Peters from SAS titled “The Indispensable SAS Programmer.” The talk will discuss the different ways data base specialists, programmers, statisticians, and many others use SAS and how you can prepare yourself to continue to be indispensable.

As in past years, this conference follows the one-day conference hosted by the Iowa SAS Users. We have joined with them to invite several SAS experts to demonstrate their innovative techniques with SAS. Hopefully you will be able to participate and learn something new! Check the conference schedule and the abstracts for details (pages 5-9).

In addition to the presentations, the conference registration provides a continental breakfast and lunch, door prizes, and the important opportunity to network with fellow SAS users. Take advantage of early registration. If you register by May 3rd the conference fee is only \$20. After May 3rd the registration fee will increase to \$40. This conference is an excellent value at either price, however, we strongly encourage early registrations. Refunds are not given, but registrations can be transferred to another person with advance notice.

We express our sincere thanks to SAS for their support of Nebraska SAS Users; SAS is a key sponsor for this event. They have been a big part of this conference every year by providing speakers, door prizes, and many other types of support. Our conference simply would not take place without the generous support from SAS. Also, we also extend a big thank-you to the Iowa SAS User’s group for their assistance.

Come join us and your fellow SAS users for an informative and educational experience which will provide many valuable opportunities for networking and developing of your SAS skills.

Robin High & Anne O’Keefe

NEBSUG 2019 Conference Co-chairs



Network with Fellow SAS® Users

Learn from the SAS® Pro’s

Learn more about SAS® 9.4

Three Concurrent Sessions with 16 Presentations

Conference Information

This one-day conference will provide an opportunity to enhance your SAS® skills and improve your understanding of the SAS® System. There will be three concurrent sessions throughout the day for the registration fee of only \$20, including breakfast and lunch!

Date: Tuesday, May 14, 2019

Location: Scott Conference Center (See map and direction on next page)
6450 Pine St., Omaha NE 68106

Registration Fee: \$20 for early registration on or before Friday, May 3, 2018
Early-registration for students is free (contact omaha1day@yahoo.com before registering)
\$40 for late and on-site registration and \$20 for students after May 3, 2019
Groups of 5 or more: \$15 each by May 3. Please use the group ticket type in Eventbrite.

Online Registration: <https://nebsug-conference.eventbrite.com>

Cancellation Policy: No refunds, but substitutions are accepted. Log in to your registration confirmation to enter your substitute or contact us for assistance at omaha1day@yahoo.com.

Check in: Starting at 7:45 AM on May 14, 2019.

Schedule: The opening session will begin at 8:15 AM followed by the keynote presentation at 8:30. Three concurrent sessions will start at 9:20 AM. Lunch will be served at 12:10 PM. The afternoon sessions will begin at 1:00 PM. The closing session begins at 3:00 PM and the conference will conclude before 3:30 PM. Each presentation will last for 50 minutes.

Lunch: Lunch on site is included in your registration fee. Special lunch requests should be selected in your registration.

Hotel: Courtyard Omaha Aksarben Village Tel: (402) 951-4300
1625 South 67th Street
Omaha, NE 68106
* Only one block away. Ask for Scott Conference Center contract rate.
You may use other nearby hotels.

Volunteers: Volunteers are needed to help with check-in and assist speakers during sessions. If you are interested, email Anne O'Keefe at omaha1day@yahoo.com before registering. Volunteers will receive discounted or free registration.



Students: Contact Anne O'Keefe at omaha1day@yahoo.com before registering for a registration/promotional code. Please do not share the code you are given.

Training Classes: Iowa SAS Users Group is offering low-cost, full-day training classes on 5/15 and 5/16 in Des Moines. See <http://www.iowasasuser.org/Registration2019> for more info.

Conference Schedule

Nebraska SAS Users Group (NEBSUG) 2019 ONE-DAY CONFERENCE

May 14, 2019 at Scott Conference Center, 6450 Pine St., Omaha NE 68106

5/14/19	Session 1	Session 2	Session 3
7:45–8:15	Check-in & Networking -- Breakfast Sponsored by 		
8:15 – 8:30	Opening Session		
8:30 – 9:15	<p style="text-align: center;">Keynote Presentation</p> <p style="text-align: center;">The Indispensable SAS Programmer – What Does the Future Hold?</p> <p style="text-align: center;">Amy Peters, SAS (1)</p>		
9:20 – 10:10	Best Tips, Tricks, and Code Snippets from 25 Years Programming in SAS Jeff Lamar (2)	SAS Studio: An Introduction Shannon Moore, SAS (3)	Getting Started with Time Series Models Danny Modlin, SAS (4)
10:20-11:10	An introduction to Web Services and JSON using SAS Delayne Stokke (5)	The Future of SAS Enterprise Guide & SAS Studio Amy Peters, SAS (6)	PROC Report Russell Lavery (7)
11:20-12:10	The STYLEATTRS Statement versus the Attribute Data Set with SGPLOT Visualizing Missing Numerical Data Robin High (8)	The Hidden Costs of Using a Cloud-based Infrastructure Ken Pikulik, Business Solutions Manager, Teradata Bob Matsey, Senior Analytic Consultant, Teradata (9)	
12:10-1:00	Lunch Sponsored by 		
1:00-1:50	Introduction to SQL in SAS Kaeli Samson (10)	What's New in SAS 9.4 Shannon Moore, SAS (11)	Getting Started with Bayesian Analytics Danny Modlin, SAS (12)
2:00-2:50	Connect to External Databases Scott A. Miller (13)	An Animated Guide©: The Data Step Debugger Speed Merges: SAS Hashing Russ Lavery (14 15)	Zero-Inflated and Zero-truncated Count Data Analysis with SAS Robin High (16)
3:00 – 3:30	Closing Session / Door Prizes		

[number in () is the index in abstract section]

Register at <https://nebsug-conference.eventbrite.com>

More Information: www.nebsug.org

Presentation Abstracts

1) The Indispensable SAS Programmer – What Does the Future Hold? Amy Peters, SAS Institute

It's impossible to define a "typical SAS programmer" – seems like everyone uses SAS differently. The common theme is the pride in handling whatever is thrown your way. With all the buzz around open source languages, where do SAS programming skills fit? How can you equip yourself to continue to be indispensable?

2) Best Tips, Tricks, and Code Snippets from 25 Years Programming in SAS Jeff LaMar, Wells Fargo

In this presentation, Jeff will cover SAS tips, tricks and tidbits that he has learned over the last 25 years performing analytics for American Greetings, Citicards, H&R Block, and Wells Fargo. Don't be afraid, there will be NO deep discussions on heteroscedasticity or multi-collinearity challenges. The presentation is designed to cover the most practical SAS learnings gleaned through years of experience. The presentation will cover areas such as the "best tips and secrets" on PC SAS and Enterprise Guide. It will also cover extremely useful code snippets Jeff has used over and over in his different positions. The objective is for everyone to walk away with at least one idea/tidbit/code snippet that they can implement immediately in their current role.

3) SAS Studio: An Introduction Shannon Moore, SAS Institute

This session introduces SAS Studio, a development application for SAS that you access through your web browser. 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.

4) Getting Started with Time Series Models Danny Modlin, SAS Institute

This session introduces the basic features of time series variation, and the model components used to accommodate them. Participants will be introduced to three families of time series models. Comparisons and contrasts among these families will be discussed.

Presentation Abstracts

5) An introduction to Web Services and JSON using SAS **Delayne Stokke, Wells Fargo Home Mortgage**

Web services are increasingly being used to provide secure, controlled access to data. JSON (JavaScript Object Notation) is widely used to exchange data between different platforms and is often the format used by web services. SAS analysts may be asked to work with data from a web service, and if so it will be helpful to have some understanding of both Web Services and the JSON format. This introduction will show 3 different ways to access and use JSON data returned from a web service.

- 1) Use PROC HTTP to access web service and return JSON data, then use the JSON engine to parse the JSON and create a SAS dataset.
- 2) Use PROC HTTP to access web service and return JSON data, then use a DATA step to parse the JSON and create a SAS dataset.
- 3) Use PROC DS2 to access web service using an HTTP package, return JSON data and then parse the data using a JSON package within PROC DS2.

6) The Future of SAS Enterprise Guide & SAS Studio **Amy Peters, SAS Amy Peters, SAS Institute**

The interfaces of SAS Enterprise Guide and SAS Studio share a common future. The ultimate goal is for you to be able to easily move between them – choosing SAS Enterprise Guide when you need the power of a desktop app and SAS Studio when you need the flexibility of a browser-based app. Both interfaces are undergoing major revisions. Come to see designs and prototypes then share your feedback and help SAS drive the direction of these products.

7) PROC Report **Russell Lavery, Contractor for Numeric LLC, Chadds Ford, PA**

PROC Report is a powerful big data tool because PROC Report reads the source data set only one time and performs all other calculations on a hidden internal file - greatly reducing run time. If the data being fed into PROC Report is in the proper structure, using PROC Report can save hundreds of lines of SAS code as well as run time.

PROC Report combines the convenience of a Proc Print with the power of the Data Step and can produce complete, complex and colorfully traffic-lighted reports in one procedure call. This mini-seminar concentrates on the internal processes of product report – how calculations are done. Understanding internal processes are required in order to calculate nested percentages and totals that are often required for complicated reports. Creating colorful and highly nested reports, using PROC Report, has been covered in many SUG papers but this topic, calculations, has not.

This talk (slides and an accompanying audio) was burned onto a CD and was glued onto the back cover of Art Carpenter's excellent book on PROC Report. If you have a hard-cover copy of that book, you already have this mini-seminar. Since that book is now being sold as a soft cover, The CD can no longer be purchased but the talk can now be presented at SUGs.

Presentation Abstracts

**8) The STYLEATTRS Statement versus the Attribute Data Set with SGPLOT,
Visualizing Missing Numerical Data**
Robin High, University of Nebraska Medical Center

The SGPLOT procedure makes many types of graphs. The appearance of these graphs without a group variable is usually easy to modify with options placed within the various plotting statements. However, when a group variable with two or more levels exists, the default choices for colors, line types, fill patterns, or symbols to differentiate the group levels are stored in an external template which can be hard to find and tedious to edit. The STYLEATTRS statement makes modifications of several attributes much easier to apply. However, restrictions on the statement's use require choices of these attributes to be accessed through an external attribute data set. This talk will compare these two methods to apply user-defined attributes for various types of graphs without modifying the templates. These techniques will demonstrate how to display the extent and patterns missing numerical data.

9) The Hidden Costs of Using a Cloud-based Infrastructure
Ken Pikulik, Business Solutions Manager, Teradata
Bob Matsey, Senior Analytic Consultant, Teradata

With the rush to the cloud, it is easy for the data scientist to be unaware of some of the "hidden" costs of using a cloud-based infrastructure. These hidden costs can cause a large increase the operational expenditure that gets billed to your department. In this talk, we show you what those costs are, how easy it is to incur, and how to avoid (or at least mitigate) them.

10) Introduction to SQL in SAS
Kaeli Samson, University of Nebraska Medical Center

Oh the Places You'll Go, with SQL! There are many uses for PROC SQL outside of interfacing with a database directly. This talk will introduce and go over the basics of PROC SQL, and will give specific examples of how it can be used in data verification, summarization, and joins. Attendees will leave with the knowledge and skills to immediately incorporate SQL into their own work.

11) What's New in SAS 9.4
Shannon Moore, SAS Institute

This presentation will explore selected changes and enhancements in SAS 9.4, including a discussion of changes to common procedures.

12) Getting Started with Bayesian Analytics
Danny Modlin, SAS Institute

This session will give a brief introduction to Bayesian statistics and its analysis within SAS. Participants will learn the difference between Bayesian and frequentist approaches to statistics and be introduced to PROC MCMC.

Presentation Abstracts

13) Connect to External Databases Including SQL Server, Oracle, and Teradata using SAS/Access **Scott A. Miller, Wells Fargo**

This presentation will discuss connecting SAS to an external relational database. This discussion will compare using a LIBNAME statement to pass-through SQL and cover some of the pros and cons to each approach. Along the way, we will introduce the differences between vendors, including Microsoft SQL Server, Oracle, and Teradata, and discuss how this will impact your work. This presentation won't get into the depths of configuring a connection, but we will touch upon it. Finally, some useful optimization techniques to improve performance will be shared.

14) An Animated Guide©: The Data Step Debugger (focusing on Concepts and the Display Manager) **Russell Lavery, Contractor for Numeric LLC, Chadds Ford, PA**

The Data Step Debugger (DSD) simplifies debugging Data Steps and not whole programs. Using the debugger requires some understanding of how SAS works because the DSD does not issue any error messages. When using the DSD, a programmer mentally compares what s/he sees, in the Program Data Vector (PDV), with what s/he expected to see. Critical, to use of the DSD, is an understanding of the PDV and, as a side issue, the DSD is an excellent way to learn the PDV. The goal of a programmer should be to learn to combine DSD commands and to link those combinations to a key or a macro. Linking a series of commands to a key, or a macro makes the DSD much more powerful.

The debugger is available in SAS Display Manager and Enterprise Guide (7.13 & above) but not in University Edition.

15) An Animated Guide©: Speed Merges: SAS Hashing **Russell Lavery, Contractor for Numeric LLC, Chadds Ford, PA**

Hashing is one of the fastest table lookup techniques, not just in SAS®, but in any programming language. 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 in the tool kit of every programmer who deals with large files

16) Zero-Inflated and Zero-truncated Count Data Analysis with SAS **Robin High, University of Nebraska Medical Center**

SAS®/STAT and SAS/ETS software have several procedures for working with count data based on the Poisson distribution or the negative binomial distribution with a quadratic variance function (NB-2). Count data may either have an excess number of zeros (inflation) or the situation where zero is not an outcome (truncation). Zero-inflated Poisson and negative binomial models are available with the COUNTREG, GENMOD, and FMM procedures. The FMM procedure also provides options for the zero-truncated Poisson and negative binomial distributions. Other types of count data models such as the restricted and unrestricted generalized Poisson (UGP & RGP), negative binomial with a linear variance function (NB-1), and Poisson-Inverse Gaussian (P-IG) distributions are also available for count data models and likewise may contain zero-inflation or be subject to zero-truncation. Programming statements entered into the NLMIXED procedure in SAS/STAT can model zero-inflated and zero-truncated count data with these distributions, and as a result may improve model fit which can be examined with the Vuong test or by comparing various fit statistics.

Biographies



Amy Peters has been at SAS for 30 years, and is currently a Principal Product Manager for both Base SAS and SAS Interfaces. Her portfolio includes the DATA step, SQL, SAS Studio, SAS Enterprise Guide, and SAS University Edition, and more. As a Base SAS programmer herself, Amy brings a programmer's perspective to designing these products to meet the evolving needs of SAS programmers around the globe.



Shannon Moore, Senior Systems Engineer, SAS Customer Success, has been with SAS since 1997 and is a charter member of the SAS' Customer Success organization. His areas of emphasis include Enterprise Business Intelligence, Office Analytics, Visual Analytics, and ODS Statistical Graphics. He is the recipient of a SAS Americas Sales Innovation Award and is a SAS Certified Visual Business Analyst. He has experience in many industries including Health and Life Sciences, Financial Services and Government. Shannon graduated from the University of Colorado, Boulder.



Danny Modlin is an analytic training consultant at SAS where he has been since 2011. Danny teaches 9 different statistics classes for SAS. He has used SAS since 2004. Danny has a Bachelors of Mathematics with Teacher Licensure from Elon College, a Masters of Mathematics from the University of North Carolina at Wilmington, and a Masters of Statistics from North Carolina State University.



Delayne Stokke has been a SAS programmer and analyst since 1986. He has presented papers at local, regional and international users group meetings, and has been co-chair of the Midwest SAS Users Group annual meeting on two occasions (2003 and 2007). Delayne is a Certified Advanced Programmer for SAS9. He works for Wells Fargo Home Mortgage in West Des Moines, IA, where he provides support and consultative services to SAS users.



Kaeli Samson is currently a Statistician at the University of Nebraska Medical Center in Omaha, NE. She is certified in both Base and Advanced SAS, and is currently working on a graduate certificate in Geographic Information Science from the University of Nebraska Omaha. She has a Master of Arts in Psychobiology from the University of Nebraska Omaha and a Master of Public Health from the University of Nebraska Medical Center



Scott Miller Scott A. Miller is a Credit Risk Analytics professional at Wells Fargo. He has a BA in Computer Science from Simpson College and is SAS Advanced Certified. In his spare time, he is fascinated with solving puzzles using computer programs.

Biographies



Jeff LaMar started using SAS in 1993 as an Operations Research Analyst for American Greetings. In 2000, Jeff migrated to the financial industry and has worked for Citicards, H&R block, and Wells Fargo. Jeff is currently working as a SAS Risk Analyst with the Wells Fargo Wealth and Investment Risk Analytics team where he focuses on financial crimes and surveillance. He holds B.S. and M.S. degrees in Industrial Engineering from Iowa State University



Russ Lavery is a frequent and multiple award-winning presenter at SAS user groups. He has been a technical reviewer on five books on SAS and statistical topics. He has over 25 years of experience using SAS and is still studying. Russ is a contractor and lives outside Philadelphia, PA, where he occasionally teaches as an adjunct in the Drexel University analytic program and dances frequently.



Ken Pikulik provides a unique perspective on analytics with a broad range of experience working with big data solutions. He currently works for Teradata to facilitate the collaboration of analytic solutions with across different technology platforms, including SAS. His two-decades of experience with data driven and Cloud applications includes work with solutions for the Internet of Things, Analytics, Supply Chain, Security and more. He is a graduate of the University of Wisconsin – Stevens Point.



Bob Matsey is a Senior Analytic Consultant with Teradata, concentrating on in-database processing and advanced analytic capabilities. Before that, he worked for 5 years at SAS as a Senior Architect, specializing on integrating SAS with Terradata. With over 25 years total experience, he is skilled in databases, IT strategy, data warehousing, and data management. He has an MBA focused in Business Administration from McColl School of Business, Queens University.



Robin High, Conference Co-Chair, is biostatistician at the University of Nebraska Medical Center in Omaha, NE. His prior experience includes statistical consulting with a civil engineering firm in Austin, Texas, researchers at Oregon State University, and for nearly 15 years assisted graduate students and faculty at The University of Oregon. He has over 25 years' experience with the SAS System.



Anne O'Keefe, Conference Co-Chair, is the Senior Epidemiologist with the Douglas County Health Department in Omaha, Nebraska. She has over 20 years of SAS experience in federal, state, and local public health agencies.



The 2019 Mid-West SAS® Users Group (MWSUG) Conference will be held on September 29th through October 1st the Hyatt Regency in downtown Chicago, Illinois.

The 30th annual MWSUG conference is the premier SAS educational forum in the twelve-state region. MWSUG is a non-profit, all-volunteer user group and is officially recognized by SAS. The conference committee is planning two full days of paper presentations from other SAS users, hands- on workshops, live demonstrations, and opportunities to network with other SAS users. We will also be offering a full menu of pre-conference training workshops. In addition, staff from SAS will be there to provide their unique expertise and insight.

This conference is a great opportunity for you to learn more ways to make better use of SAS software and get more value from your investment in SAS software.

Come, enjoy the fun, food, see good friends and make new ones. Share what you know and gather new information. There is something for everyone. We look forward to seeing you in Chicago this Fall!

For details please visit www.mwsug.org.

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Naeem Awan
 "The SAS Support Communities help me polish my SAS skills and share my knowledge with other users. They provide new opportunities for me to learn and contribute actively."

Michelle Homes
 "SAS Support Communities are a great place to search for answers, ask questions and learn in a 24x7 environment."

Chris Battiston
 "SAS users - brand new to highly experienced - can find what they're looking for quickly."





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FOR MORE INFORMATION, PLEASE CONTACT JOHN XU, 515-778-4093, JOHNXU@1ST-CONSULTING.COM



Iowa SAS Users Group

<http://www.iowasasuser.org/>