NEBRASKA SAS® USERS GROUP

ONE-DAY CONFERENCE

Conference Chairs

Robin High and Anne O'Keefe

TUESDAY, MAY 23, 2023

College of Public Health

University of Nebraska Medical Center

nebsug.org

Message from Conference Chairs

Dear fellow SAS Users –

After a long four-year pause, the next Nebraska SAS Users Group conference will be held on May 23rd, 2023. Your fellow SAS users, colleagues and friends will come together to exchange ideas, job/contract opportunities, and for networking. The conference will be held on the top floor (3) of the College of Public Health at the University of Nebraska Medical Center in Omaha. One key feature of this year's one-day SAS conference is that it is FREE for all in-person and online attendees. The conference space is smaller than the location in previous years, so in-person registration will be limited to the facility's capacity of 100.

The conference begins with our featured key-note speaker, Anne O'Keefe. She previously was the Senior Epidemiologist for the Douglas County Health Department in Omaha and is currently a professor at Creighton Medical School in Omaha and has been one of the local leaders in the battle against Covid-19 virus.

Following the keynote, you can choose from three concurrent presentation sessions. Presentations are scheduled for 50-minutes throughout the day. This year, we have invited four speakers from the SAS Institute, financial expert and book author Frank Tian, modeling expert Bruce Lund, and several SAS gurus.

Since students are not in session on this day, parking is available in the lot adjacent to the UNMC Public Health building (see map on the next page). UNMC recently opened the Davis Global Center, home of iEXCEL, a short walk from the public health building (located at the corner of 42nd and Emile St), where advanced visual technology is used to teach medical students. Morning and afternoon tours of the facility will be offered this year. On the registration form there is an option to choose either the morning or afternoon tour, or if either time will work. The number of persons on each tour will be limited to 25, so we may need modify the pre-registration option when demand approaches each tour's capacity. In order that we have an accurate in-person count, if you register and then cannot attend, please read the cancellation policy on the conference information page (p. 3). As an alternative, we are also offering an online or virtual registration option for the sessions to be held in Room 3013 (first column of the conference schedule).

We'll end the conference by holding a closing session where door-prizes (which include a laptop computer and much, much more) are given away before we wrap up things. You don't want to miss the closing session! Please bring along your business cards, not only for networking, but to facilitate our registration process.

Your Conference Chairs,

Robin High
Anne O'Keefe
Nebraska SAS Users Group

Free Registration --New!!

Network with Fellow SAS® Users

Learn from the SAS Pro's

Three Concurrent Sessions

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! We will have invited speakers including academic and industry experts, as well as SAS Institute speakers. Online Registration will start in mid-April. This year, we are offering free registration for everyone.

Date: Tuesday, May 23, 2023

Location: **Center for Public Health** (map and directions included below)
University of Nebraska Medical Center
519 South 40th Street
Omaha, NE

Online Registration https://unmcredcap.unmc.edu/redcap/surveys/?s=3PPHPCCFW3KRMD9L

Registration Fee: Free registration for every attendee. There is a maximum allowed number of in-person attendees of 100. There is also a virtual option for sessions in Room 3013.

Cancellation Policy: To have an accurate count of in-person attendees and allow others to attend, if you need to cancel your registration, send an email to rhigh@unmc.edu.

Schedule: Arrive early for a continental breakfast and networking. Check-in will start at 8:00 AM. Opening session begins at 8:45 AM and the Keynote will begin promptly at 9:00 AM. Three concurrent sessions will start at 10:00 AM. Lunch served at noon. The afternoon sessions will start at 1:00 PM. The closing session will start at 4:10 PM and will conclude before 4:30 PM. See Conference Schedule for more details.

Breakfast/Lunch: Continental breakfast and lunch are provided to all attendees.
Coffee and other beverages will be served throughout the day.

Hotel: Two hotels near UNMC include:
Home2 Suites by Hilton Omaha UN Medical Ctr Area (4440 Douglas Street, 402-504-4848)
Kimpton Cottonwood Hotel (302 S. 36th St., 402-810-9500).

Questions: For answers, e-mail your question to Robin High: rhigh@unmc.edu
(402) 559-2929

Dodge Street

N

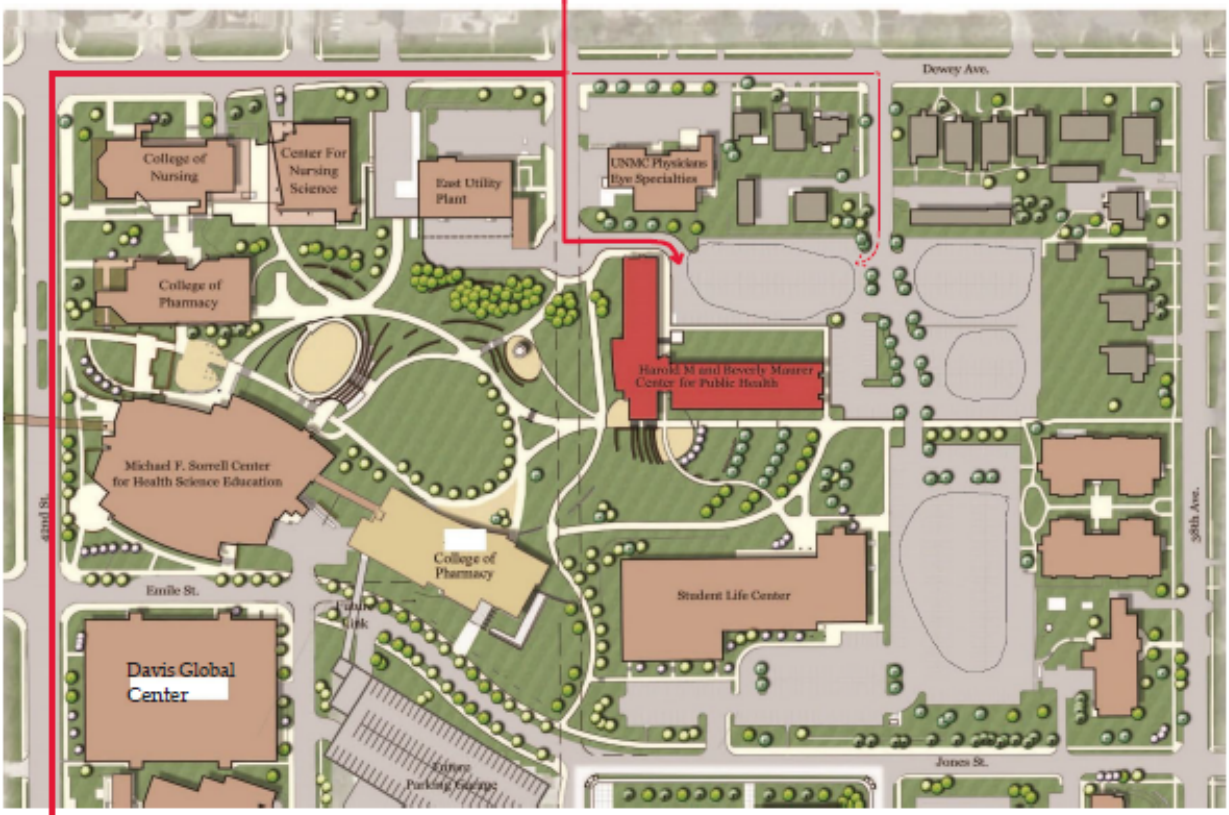
Lot 15E Faculty and Student parking, as circled below, are available to park in while visiting on campus.

40th Street

Access to MCPH (Maurer Center for Public Health)

Approaching from the east, travel west on Farnam and turn left on 40th street

Take Dodge to 40th Street
Turn South on 40th Street Drive past Dewey Street
Turn left into the parking lot behind (north side) the MCPH



From I-80:

Take 42nd Street North to Dewey

Turn Right on Dewey

Turn Right on 40th Street

Turn Left into the parking lot behind (north side) the MCPH

University of Nebraska Medical Center

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

5/23	**Session 1** (Room 3013)	**Session 2** (Room 3001)	**Session 3** (Room 3009)
8:00 - 9:00	Check-in begins at 8:00 AM Opening Session at 8:45 -- Continental Breakfast Sponsored by SAS		
9:00 - 9:50	**Opening Session Keynote:** **With So Much COVID-19 Data,** **Why Didn't We Have Better Information About the Pandemic?** by Anne O'keefe		
10:00 - 10:50	How to Use Popular PROCS in SAS®/STAT Marc Huber, SAS® Inst (1)	Consumer Credit's Pandemic Journey Frank Tian (2)	Building a Predictive Model using logistic Regression. Emilio Serrano (3)
11:00 - 11:50	How Do I Move SAS® Applications to a Public Cloud Margaret Crevar, SAS Inst (4)	New Methods for Model Fitting and Validation for Logistic Modeling Bruce Lund (5)	iEXCEL tour (meet in the open space next to Room 3009)
11:50 - 1:00	Lunch & More - WORDLE SPONSORED BY SAS		
1:00 - 1:50	How to use GIT with your SAS projects; Chris Hemedinger, SAS® Inst. (6)	Recent Developments in Survival Analysis with SAS® Marc Huber, SAS® Inst (7)	
2:00 - 2:50	The Evolution of BNPL (Buy Now Pay Later) Frank Tian (8)	The Analysis of Ordinal Data with Graphs and Odds Ratios Robin High (9)	iEXCEL tour (meet in the open space next to Room 3009)
2:50- 3:10	Afternoon Break		
3:10 - 4:00	Anomaly Detection Using Process Behavior Charts Jeff LaMar (10)	Using Logistic Models for Net Lift and Propensity Scores, with Applications to Marketing Bruce Lund (11)	
4:10 - 4:30	**Closing Session/Door Prize** (Laptop computer, and more) 		

Presentation Abstracts

Opening Session Keynote Speech

With So Much COVID-19 Data, Why Didn't We Have Better Information About the Pandemic?

By Dr. Anne O'Keefe, Professor at Creighton School of Medicine

ABSTRACT:

The COVID-19 pandemic is happening in a world where extensive data systems have been implemented to digitize information in our health care delivery and public health systems. Federal laws, regulations, and resources were poured into implementing these systems resulting in massive amounts of data on the pandemic. But what does it all mean? Why haven't we been able to utilize it to better understand this pandemic disease and how to combat it? In this presentation, I'll explore the challenges of utilizing the data to respond to the pandemic. I'll describe some of the data systems, some of the challenges, and some of the successes in using the data.

Objectives:

- Describe data systems that inform the COVID-19 pandemic response.
- Describe public health questions that could not be answered easily using these systems.
- Describe ways to overcome some of these challenges.

Lunchtime Keynote Speech

How to Build the Wordle Game in SAS

By Chris Hemedinger, Director of SAS® User Engagement SAS® Institute

ABSTRACT:

Chris created this project as a fun exercise to emulate the popular game Wordle in the SAS® language. Find out how he did it and the lessons he learned along the way.

(1) How to Use Popular PROCs in SAS®/STAT

Marc Huber, SAS Institute

Learn about the comprehensive set of tools that SAS®/STAT offers, more than 100 procedures for statistical analysis, and how it is scalable to meet your needs.

(2) Consumer Credit's Pandemic Journey

Frank Tian

The pandemic has greatly impacted consumers' daily life - including consumer finances. How did consumers handle their deposits and credit in the last 3 years? How did policy changes from both the government and private lenders drive consumer behaviors? What challenges consumers are facing in a high interest rate and high inflation environment today?

This presentation will walk you through the recent history to see what has happened in consumer finance, what lessons to learn for both financial institutions and consumers, and what's expected to come in the post-pandemic era.

(3) Building a Predictive Model using logistic Regression

Emilio Serrano

Walk through the steps of building a predictive model. Identifying the objective; defining goals; selecting data; data cleaning; Analyzing, transforming, and sampling; model selection; validation and implementation.

Whether you are new or experience programmer, or a business user, you will find value on this presentation. We will walk through the steps of building a predictive model from a wholistic view, where all pieces are important. We will discuss how to engage the business, and how to build a robust and useful model. In addition, we will provide tips for selecting the best variables, provide sample code and earn buy-in from the stakeholders.

(4) How Do I Move SAS® Applications to a Public Cloud?

Margaret Crevar, SAS Institute

Learn important performance considerations for SAS® 9 and SAS® Viya® when hosted in any available public clouds and how to configure the cloud infrastructure to get the best performance with SAS®.

(5) New Methods for Model Fitting and Validation for Logistic Modeling

Bruce Lund

A traditional method for fitting and validation in Logistic Modeling is “split-sample”. Fit on TRAIN and Validate on VALIDATION. But Split-Sample cannot be applied to small analysis datasets. A new method is explained in this talk. This method involves fitting and validating on the full analysis dataset. This accommodates smaller analysis datasets but also this method is fully applicable for large analysis datasets. Model Validation is achieved by an “Optimism Correction Adjustment” that involves repeated bootstrap sampling and model fitting to compute the adjustment. Care must be exercised in predictor preparation on the full analysis dataset to avoid “double dipping”. In this regard, regression splines are utilized. Automated selection of predictors using PROC’s LOGISTIC, HPLOGISTIC, HPGENSELECT (for LASSO) are used for model fitting. Familiarity with logistic modeling, PROC LOGISTIC, and moderate SAS coding skill is assumed. All topics are introduced from first principles. Inspiration for this talk follows from work of F. Harrell and E. Steyerberg. The talk uses Base SAS® and SAS/STAT®.

(6) How to Use GIT with Your SAS Projects

Chris Hemedinger, SAS® Institute

(7) Recent Developments in Survival Analysis with SAS®

Marc Huber, SAS Institute

Are you interested in analyzing lifetime and survival data in SAS®? If you are, then SAS®/STAT and SAS® Viya offer a suite of procedures and survival analysis methods that enable you to overcome a variety of challenges frequently encountered in time-to-event data. This presentation brings you up to date with new approaches and procedures in SAS® and gives you an overview of how to use these procedures to overcome the challenges inherent in conducting survival analysis in today’s world.

(8) The Evolution of BNPL (Buy Now Pay Later)

Frank Tian

In recent years, a new form of consumer credit called Buy Now Pay Later (BNPL) has taken the industry by storm. Its acceptance got accelerated by the booming of e-commerce during the pandemic. However, while providing convenience to consumers and merchants, the fast growth of BNPL also has brought some issues.

What has led to BNPL’s fast rise? What hurdles has it run into? How have the new entrants and incumbents responded to the increased competition? What are regulators considering to protect the consumers? This presentation will walk you through the BNPL’s evolution journey, as well as the lessons we can learn.

(9) The Analysis of Ordinal Data with Graphs and Odds Ratios

Robin High

Ordinal data are commonly collected in surveys to assess respondents' answers to items expressed on an ordinal scale (agreement, level of activity, frequency, etc.) and in many situations multiple statements based on a general concept which are combined into scales. Methods to visually summarize survey results will be demonstrated, first with two types of horizontal bar charts divided into response segments identified by various choices of colors and the percent "agreement" comparing similar items. Interpretation and reasons for making each type of plot will be discussed. In addition, much like binary data, ordinal data with three or more levels can be evaluated with odds ratios based on cumulative or adjacent logit models having categorical and/or continuous predictors. Also, the unequal slopes option is available with the LOGISTIC procedure from SAS@/STAT software and can also be programmed with the NLMIXED procedure. Output of predicted probabilities allow summary results to be displayed with a probability plot or printed in a table with the SGPLOT and TABULATE procedures. A process for generating power calculations with ordinal outcomes having a specified odds ratio based on varying sample sizes will also be demonstrated.

(10) Anomaly Detection Using Process Behavior Charts

Jeff LaMar

In this presentation, Jeff LaMar will be covering a number of topics in the area of anomaly detection. First, he will be discussing the philosophy of understanding variation in underlying data and key principals to consider when performing analysis on time series data. Practical visualizations of a number of process behavior charts will be shown and how to filter out noise and detect signals will be discussed. He will present the SAS® Proc Shewhart procedure and how it is used to create different variations of process behavior charts (from simple to more complex). He will discuss putting it all together and creating a practical methodology for anomaly detection. Finally, all supporting SAS® code and snippets will be available.

(11) Using Logistic Models for Net Lift and Propensity Scores, with Applications to Marketing

Bruce Lund

Large retail companies maintain large customer databases which are used to develop models for marketing campaigns. A Net Lift Model is developed to find prospects who will make an incremental purchase due to a marketing incentive (the treatment). Such prospects are profitable. Randomized treatment and control are required in order to create a Net Lift Model. In contrast, many other marketing campaigns do not utilize randomization of treatment, but the organization, nonetheless, wants to measure the incremental effect. This is akin to observational studies in bio-science. A population of prospects is identified for measurement where some prospects chose to receive a treatment and others did not. Propensity scores give the probability that a prospect received an incentive (was treated) based on a set of predictors common to the population. These propensity scores are used in formulas for measuring the incremental effect (average treatment effect) for the campaign. PROC LOGISTIC and some features of PROC's PSMATCH, CASUALTRT will be discussed. Familiarity with logistic modeling, some use of PROC LOGISTIC, and moderate to strong SAS coding skill is assumed, but the talk is intended to be introductory in all respects. The talk uses Base SAS® and SAS/STAT®.

Biographies

Robin High has been a biostatistician at the University of Nebraska Medical Center in Omaha, NE since 2008. His prior experience includes statistical consulting with a civil engineering firm in Austin, TX, researchers at Oregon State University, and for nearly 15 years assisted graduate students and faculty at The University of Oregon. He has over 30 years' experience with the SAS System.

Anne O'Keefe is a Professor and Vice Chair of Public Health in the Division of Clinical Research and Public Health at Creighton School of Medicine. Dr. O'Keefe graduated from the University of Nebraska Medical Center, College of Medicine and completed a Masters of Public Health degree in Epidemiology from Emory University, Rollins School of Public Health in Atlanta, Georgia. She completed a Transitional Internship at Emory University School of Medicine, a Preventive Medicine Residency at the University of Colorado Health Sciences Center in Denver, Colorado, and is board certified in Public Health and General Preventive Medicine. Dr. O'Keefe has experience as an epidemiologist in local, state, and federal public health agencies, working in public health informatics, disease surveillance, outbreak investigations, bioterrorism response, occupational safety, nutritional epidemiology, and drug safety research.

Margaret Crevar works in SAS R&D and her team was part of the large group of R&D engineers who worked on SAS® 9.4 M8. She works closely with SAS® customers and understands their need for SAS® to be as secure as possible. Margaret also works with SAS customers to ensure their hardware is optimally configured for their SAS applications.

Chris Hemedinger is the Director of SAS® User Engagement, which includes the SAS® Communities and SAS® User Groups. Since 1993, Chris has worked for SAS® as an author, a software developer, an R&D manager and a consultant. Inexplicably, Chris is still coasting on the limited fame he earned as an author of SAS® For Dummies.

Marc Huber has worked at SAS since 2004, currently as a senior analytical training consultant. Before coming to SAS®, he worked as a biostatistician at the department of biostatistics at the University of North Carolina at Chapel Hill, and as a statistical programmer and statistical analyst at Duke University. Marc hold a masters degree in quantitative psychology from the University of North Carolina at Chapel Hill. At SAS®, he both teaches and develops courses, including courses in logistic regression, survival analysis, cluster analysis, multivariate methods, and time series forecasting.

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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 Principal Analytics Consultant with the Wells Fargo Risk Operations & Supervision team where he focuses on Personal Lending Front Line Risk monitoring. He holds B.S. and M.S. degrees in Industrial Engineering from Iowa State University.

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Bruce Lund is a statistical training using SAS® and independent consultant. For the prior seventeen years Bruce consulted for OneMagnify (a marketing, technology and analytics company) of Detroit. Before OneMagnify, Bruce worked at Ford Motor Company. There he managed the Ford customer database and implemented analytic and modeling methodologies for use by customer relationship management. Bruce began his career as a tenured mathematics professor at the University of New Brunswick, Canada. He has a mathematics PhD and statistics MS from Stanford University. In the past 10 years Bruce has presented frequently at SAS user conferences including SAS Global Forum and SAS AnalyticsX. In 2019 he wrote at survey paper on the topic of logistic regression “Logistic Regressions, Basics and Beyond”. This paper can be found through the MWSUG 2019 web-site.

Emilio Serrano has been an Analytical Consultant since 2002. He has experience across different technology platforms, including SAS. He is currently working as a free-lance consultant, for various consulting and advertising companies. His areas of emphasis include data management, customer experience, machine learning and predictive modeling. He has experience in a variety of industries including Financial Services, Manufacturing and Consumer Goods. He holds an MS in Survey Research from UNL. Group.

Frank Tian is a seasoned credit risk professional and the author of the book “Unsecured Lending Risk Management - A Practitioner’s Guide”. Over the past two decades, he has successfully managed the risk of dozens of banks and fintech lending portfolios in the US and Canada, helping businesses navigate various economic circumstances.

John Xu is the Director of Consulting of 1ST Consulting LLC, a West Des Moines based consulting company specialized in SAS related services. He has over 30 years of SAS experience in Financial, Insurance, Marketing, Government, Education, and Pharmaceutical industries. John is Vice President of MidWest SAS Users Group. He is currently leading the activities of Iowa SAS Users Group and also supporting Nebraska SAS Users Group.

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For more information, please contact John Xu, 515-778-4093, johnxu@1st-consulting.com

Volunteer Signup Form

This conference is made possible by volunteers like you. If you would like to help, please complete the form below and email it to Robin High at rhigh@unmc.edu with subject line: NEBSUG Volunteer. Thanks!

Name_____

Phone_____

Email_____

Please rank the volunteer work you would like to participate:

( ) Conference Promotor

Promote the conference in your company by forwarding announcement to co-workers and coordinating the group registration.

( ) Registration Coordinator

Need to come early at 7:30 am on Tuesday, May 23 to conference site to set up registration table and help with check-in.

( ) Session Coordinator

Direct attendees to the proper conference room. Hand out paper if available. Remind speaker about time left. Introduce speaker if asked by Section Chair. Minimum of half day in a session.

( ) Conference Support

Provide general support to attendees.

WANTED: Future Conference Chairs!

The current conference chairs will not be continuing this role in future years. If you are interested in chairing NEBSUG Meetings in the future, please reach out to Robin High, Anne O'Keefe, or John Xu. We can advise where needed. It is a great way to get to know other SAS users and keep this conference going.