FROM THE PRESIDENT

I hope you are all having an enjoyable summer with family and friends!

We had a very successful meeting in May. We had to close the registration early due to the registration numbers exceeding the meeting room capacity, even though we had decided to move the meeting from our usual meeting room to a bigger room at Pfizer. Three SAS speakers were definitely the main reason that drew a large number of more than one hundred SANDS members to the meeting. Andy Littleton, our user group liaison from SAS institute, came to the meeting in person and she also brought the generous door prizes and giveaways to the meeting. Every person who attended the meeting got the latest version of *The Little SAS Book* and a SAS notepad while several books of *Output Delivery System: The Basics and Beyond* and coupons for free SAS online training courses and free SAS books (any title) were door-prizes. Thank you, Andy and SAS Institute!

We will have three speakers again for our August meeting. In the afternoon, Steve Beck from Valesta Clinical Research Solutions will give a workshop on networking and interviewing techniques for SAS programmers. Steve presented on interviewing tips and techniques in our SANDS meeting two years ago and it was well accepted. In the evening meeting, Bob Janka from Modern Analytics will present seven principles in architecting data management first, followed by Curtis Smith’s presentation on data analytics in audit. Curtis Smith works for the Defense Contract Audit Agency and he has contributed on tips for data warehouse column in our newsletter for more than a decade. Curtis is one of the best presenters I have ever met. I look forward to their presentations!

Don’t forget! WUSS 2015 Educational Forum and Conference ([http://www.wuss.org/](http://www.wuss.org/)) will be held at the Hyatt Regency Mission Bay in San Diego from September 9th to September 11th. You still have a chance to register if you have not done so yet. With SAS 9.4 Maintenance release 3 being just released, you will be able to talk with SAS developers directly on new features that the new SAS version brings to you.

We will have one Executive Committee member change: Scott Leslie is leaving. Thank you, Scott, for your help and support in the past few years! Kirk Lafler, who every SANDS member knows, is willing to be the speaker/program coordinator for SANDS. Welcome on board, Kirk! We are so grateful for your continuous support to our local SAS community! We have quite a few members who have been serving in our Executive Committee for a long time and we always welcome members to join our Executive Committee. We need more help from members like you, so please let me or any SANDS EC member know if you would like to serve our local user group.

Last, but not least, if your company or any company that you know is willing to support our upcoming SANDS meetings either as advertisers in our quarterly newsletter or as sponsors for dinner, please let us know.

See you soon!

- Wei Cheng
MEETING AGENDA - AUGUST 12, 2015
Location: Building CB2, Room 1110 - RSVP Now!

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<td>3:30 - 5:00</td>
<td><strong>Workshop:</strong> Networking and Interviewing Techniques - Steve Beck</td>
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<td>5:15 - 6:00</td>
<td>Dinner/Networking</td>
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<td>6:00 - 6:15</td>
<td>Welcome/SANDS Business</td>
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<td>6:15 - 7:15</td>
<td><strong>Featured Presentation:</strong> Architecting Data Management: 7 Principles using SAS®, DataFlux® and SQL - Bob Janka</td>
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<tr>
<td>7:15 - 7:45</td>
<td><strong>Short Talk:</strong> Data Analytics in Audit and Elsewhere – Curtis Smith</td>
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<tr>
<td>8:00 - 8:15</td>
<td>Stump the Programmer and Coders’ Corner</td>
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<td>8:15 - 8:30</td>
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**Workshop:** Networking and Interviewing Techniques

*Abstract:*

Everyone says to network. What does that mean and how do you do it? In this workshop, we will discuss how to network effectively and how to prepare for in-person interviews. Steve Beck has been recruiting in the Biostatistics / SAS Programming space for 14 years and will be presenting on networking and interviewing techniques. How do you utilize LinkedIn and other tools to establish your network? It isn’t the number of people you connect with, but the quality of your connections and how to communicate with them. Like networking, interviewing is your first impression to an organization. How preparing for an interview will set you apart from others. There are some simple tips to be an effective interviewer. Come out and pick up some useful tips on your next career move.

**Bio: Steven Beck** has 16 years of Human Resource Management experience with a primary focus on Talent Acquisition and Management Strategy. His specialty is in Life Sciences Clinical Research for the Pharmaceutical / Medical Device industry. In addition to Talent Acquisition for Pharmaceutical/CROs, he has been career coaching for the past 2 years locally in San Diego. He has been a guest speaker at Temple University and Young Non-Profit Network San Diego Chapter as well as holds LinkedIn seminars and interview technique training programs quarterly within the San Diego community.

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Featured Presentation: Architecting Data Management: 7 Principles using SAS®, DataFlux® and SQL

Abstract:
In this session, we cover creating a data mart to be used for modeling. We start by discussing the data and data format needed for modeling. We then walk through an example in SAS Enterprise Guide by creating a target variable, creating model input variables from single or multiple variables, recoding variables and subsetting the data to the cases of interest. The entire process is captured in a SAS Enterprise Guide Process Flow.

Bio: Bob Janka works as a Senior Solutions Consultant for Modern Analytics in San Diego. His clients span multiple industries, including Financial Services, Telecommunications, Automotive, Biotechnology, and Retail. With over 15 years experience in SAS®, Bob specializes in SAS Enterprise Business Intelligence and Data Integration. He currently focuses on Data Quality, using SAS DataFlux®. Bob spent many years as a Software Developer with SAS Institute R&D, most recently in OLAP Server R&D. During his time in SAS Institute, he also worked at the SAS European Head Office in Heidelberg, Germany. Bob earned his MBA in Technology Commercialization from North Carolina State University and his Bachelor of Science in Computer Science / Mathematics from University of Illinois at Urbana-Champaign. He is a veteran of the United States Air Force and a member of the Computer Society with Institute of Electrical and Electronic Engineers.

Discussion about the audit implications of data analytics, and then stay with me as we broaden the discussion and demonstration to see what interesting anomalies await us in our innocent-looking data. Of course, SAS will get us where we are going.

Bio: Curtis Smith works for the Defense Contract Audit Agency as an office manager. He has also served as a supervisor, an IT Technical Specialist, and as an auditor. In his various jobs, he has performed audits of business systems, analyzed IT systems, gained access to those systems, and audited the electronic data contained within those systems. Curtis’ data analytics tool of choice, is of course, SAS. In his job capacities, Curtis frequently makes presentation within the government and to outside organizations, including SANDS, WUSS, and SUGI.

Short Talk: Data Analytics in Audit and Elsewhere

Abstract:
Data analytics has a place in many professions, including audit. While some data analytics enthusiasts may not be in the noble profession of auditing, the techniques useful to audit are also useful for analyzing all kinds of data to find interesting trends and anomalies, regardless of the profession. Join me for a brief discussion about the audit implications of data analytics, and then stay with me as we broaden the discussion and demonstration to see what interesting anomalies await us in our innocent-looking data. Of course, SAS will get us where we are going.

Bio: Curtis Smith works for the Defense Contract Audit Agency as an office manager. He has also served as a supervisor, an IT Technical Specialist, and as an auditor. In his various jobs, he has performed audits of business systems, analyzed IT systems, gained access to those systems, and audited the electronic data contained within those systems. Curtis’ data analytics tool of choice, is of course, SAS. In his job capacities, Curtis frequently makes presentation within the government and to outside organizations, including SANDS, WUSS, and SUGI.
TIPS FOR USING A DATA WAREHOUSE

In our last episode, we looked at a way to create a new variable to hold a “bucket” value for categories of data values from which we could perform some analyses. This time, we will take a turn from our usual path and discuss some techniques I use for data analytics related to auditing business transactions. While you may not be in the noble profession of auditing, these techniques are useful for analyzing all kinds of data to find interesting trends and anomalies, regardless of your profession.

When using data analytics in audit, we follow generally-accepted auditing standards, AU-C Section 500, Audit Evidence. A key requirement is 500.A21 which states:

Analytical procedures consist of evaluations of financial information through analysis of plausible relationships among both financial and non-financial data. Analytical procedures also encompass such investigation as is necessary of identified fluctuations and relationships that are inconsistent with other relevant information or that differ from expected values by a significant amount.

In layman’s terms, this means that when we use data analytics in audit (which we technically call Analytical Procedures), we first determine what would be normal for our data to look like, and then we test our data to see if it looks like what we expect. Three of my favorite data analytics tests are a trend analysis, a duplicate-number analysis, and what I call a Day-of-the-Week analysis. I don’t have space here to describe these in detail, but will mention them briefly to get your interest.

Trend Analysis

This is an easy data analytics test, simply using a PROC GCHART to show the period total for each period in a series. I like to use the year-month for two or more years to establish a pattern or lack of a pattern. With this analysis, we are looking for a trend that does not make sense. For example, if we analyze labor by month and we know there was a huge layoff mid-year, then we would expect to find a sudden drop in labor at that time. But, if we find labor charges steady throughout the year, then we have a reason to be suspicious.

My core code looks like the following:

```sql
proc gchart data=in.labor_data;
  vbar3d YearMonth / type=SUM sumvar=Dollars;
run;
quit;
```

Day-of-the-Week Analysis

This is an interesting analysis as I analyze the day of the week on which a transaction happens. This is useful to analyze whether or not transactions are happening on the days we expect. For example, if a company normally posts its labor transactions on Friday of each week, we should find all of the labor posted on Fridays. Any labor posted on other days of the week is suspect.

My core code uses a PROC GCHART, just like my prior example, but relies on knowing the day of the week a transaction was posted or created. So, to get that, we need to create a new variable based on a date variable. I create this new variable as follows:

```sql
day_week = weekday(posting_date);
```

Then, a simple chart so we can visually see the results.
SANDS

TIPS FOR USING A DATA WAREHOUSE (CONTINUED)

Duplicate-Number Analysis

I love this analysis. Typically, duplicated transactions are very suspicious, but probably very rare. But, what is common is to find transactions for the same amount, which may be suspicious. So, this analysis assesses the amounts for duplicates, determines the frequency of each duplicate, and then computes the potential impact of each duplicated amount. I then identify the duplicated amounts with the greatest potential impact, and will then test the underlying transactions further.

My core code uses a PROC GCHART, just like my prior examples, but relies on a PROC FREQ to determine the duplicated numbers and the frequency of occurrence of each duplicated number. My core code looks like the following:

```sas
proc freq data=in. labor_data(keep=Dollars);
tables Dollars/out=work.duplicate;
```

Once I have an output data set with the duplicated numbers and their frequency of occurrence, I use a simple Data Step to create a permanent data set with the potential impact amount, which is simply the product of duplicated number times its frequency of occurrence. Then, a simple chart so we can visually see the results.

Thanks for reading.

Curtis Smith
DoD Office Manager
cia.smith86@att.net

SANDS Membership

Membership in the San Diego SAS Users Group, Inc. (SANDS) provides an opportunity for SAS users to meet and keep updated on SAS issues. Seminars and presentations allow SAS users to gain knowledge with little or no cost. It is also an opportunity for consultants and prospective employees to meet possible employers, and companies to show their SAS-related products and host a meeting. We welcome those interested in giving presentations and writing articles for the newsletter. Presently, there is no charge to attend our meetings or to receive our newsletter; small fees may be asked for some special functions or workshops.

The SANDS membership list is not given out to others and is used only to disseminate SANDS related business, such as newsletters or special announcements. Those wishing to sell their products or services have the opportunity to advertise in the newsletter at reasonable rates.

To become a member, please email the following to Cathy Liu: Name, Title, Organization, Telephone, E-mail, Fax, Address, Work or Home indicator, Computer Platform, SAS version, and SAS related areas of interest.
KIRK’S KORNER: HIGHLIGHTS OF THE SAS® GLOBAL FORUM 2015 CONFERENCE

“EVERYTHING IS BIGGER IN TEXAS, EVEN THE ATTENDANCE NUMBERS AT THE ANNUAL SAS GLOBAL FORUM 2015 CONFERENCE”

After returning home from the greatest, and largest, SAS® conference on earth, I wanted to share a few highlights from the SAS Global Forum (SGF) 2015 Conference, where more than 5,000 attendees from every corner of the globe took part in the multi-day SAS-fest. For four days, from sun-up to well after sun-down, conference attendees heard about a number of new product introductions, features and solutions, and learned countless tips, tricks, shortcuts, programming techniques and other content.

The SAS Global Forum (SGF) 2015 Conference took place in the United States’ geographically largest of the contiguous states, Texas, specifically Dallas, Texas, from Sunday, April 26th through Wednesday, April 29th, 2015. As conference-goers congregated and trekked the largest convention center I’ve ever seen and been involved with, SAS users attended, learned and networked with like-minded colleagues. Attendees gathered to watch and listen to speakers in the many informative and content-filled sessions, including the opening session, keynotes, presentations, breakout sessions, 459 papers, hands-on workshops (HOWs), demonstrations, e-posters, mixers, networking events, and other venues. In fact, many sessions were so well attended that not an empty seat could be found.

So, what were the highlights from the SAS Global Forum 2015 conference? I have listed a series of clickable links, below, to enable you to relive and enjoy the conference experience with informative videos. Using your favorite web browser, access the SGF 2015 Conference welcoming speech by Tyler Smith; the executive overview opening speech by Jim Goodnight; an overview of the 2015 conference highlights; an opening video on tapping into the full potential of your data; a listing of the conference breakout sessions; the complete list of published conference papers; how to be a SAS professional by Mantosh Sarkar; SGF 2015 conference highlights; and a brief look at what you can expect at next year’s SAS Global Forum 2016 conference in Las Vegas, Nevada, by Jennifer Waller.

Enjoy, learn and experience the greatest, and largest, show on earth for SAS users – SGF 2015!

SAS® Global Forum 2015 Conference Welcoming Speech by Tyler Smith
SAS® Global Forum 2015 Conference Executive Overview Opening Speech by Jim Goodnight
SAS® Global Forum 2015 Conference Opening Session in Review
Opening Video: Tap the Full Potential of Your Data with SAS
SAS® Global Forum 2015 Conference Breakout Sessions
SAS® Global Forum 2015 Conference Published Papers
How to be a SAS® Professional by Mantosh Sarkar
SAS® Global Forum 2015 Conference Highlights and Previews of the SGF 2016 Conference
SAS® Global Forum 2016 Conference Highlights with 2016 Conference Chair Jennifer Waller

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Twitter: @sasNerd
Stump the Programmer #73 by Art Carpenter

COUNTing Words

The COUNTW function is used to count the number of words in a character string with the default delimiter being a blank. How many words will be counted in each of the following uses of COUNTW?

data a;
x = 'a b c d e f';
cnt0= countw('a b c d e f');
cnt1= countw(x);
cnt2= countw(x,'d');
cnt3= countw(x,'d');
cnt4= countw(x,);
put cnt0= cnt1= cnt2= cnt3= cnt4=;
run;

SANDS Sponsorship

We would like to thank Pfizer for having once again generously provided our meeting room. This month, SANDS is sponsoring our meeting dinner and activities. It is our sponsors who make it possible for us to hold our meetings free of charge so, at the event, please do let sponsor representatives know how much you appreciate their support. If your company would like to sponsor SANDS activities, please contact the SANDS sponsorship coordinators, Tyler Smith and Vivian Huang.
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<td>Full Page</td>
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Note: Prices may change without notice. Additional fees may be charged if modifications are needed. For verification of current prices and/or to send ads in PDF format, please contact Tyler Smith and/or Vivian Huang.

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