

SANDS *SANDS* Newsletter

**NOVEMBER 20,
2013**

3:30 - 5:00

WORKSHOP

Methods and Application for
Determining the Integrity
and Veracity of Medical
Device Safety-Related Data
in Social Media
Michael Wallis

5:15 - 6:00

**LIGHT DINNER /
NETWORKING**

6:00 - 6:15

**WELCOME /
SANDS BUSINESS**

6:15 - 7:30

**FEATURED
PRESENTATION**

Fast Dashboards Anywhere
with SAS® Visual Analytics
Rick Styll

7:30 - 8:00

SHORT TALK

Cross-Classified Models:
Because Everything Isn't a
Nesting Doll
Ben Porter

8:15 - 8:30

**STUMP THE
PROGRAMMER AND
CODERS' CORNER**

8:30 - 8:45

**DOOR PRIZES AND
GIVEAWAYS**

From the President

I can hardly believe we are at the close of 2013! As dipping temperatures precede falling leaves, we have the sense of an emotional cadenza at the end of the year, a braiding of feelings like exhaustion, nostalgia, joy, and hope. I believe everyone has had celebrations for some and chagrin for others in 2013.

We had a great turnout at our August meeting, almost seventy RSVPs and more than fifty people attended the afternoon workshop and evening meeting. The fact that SAS Institute sent an email blast to the SAS users around San Diego area definitely made a difference. We had a SAS speaker, Shannon Moore, who presented remotely through WebEx in the afternoon. In the upcoming November meeting, we will have two SAS speakers present in person!

These days, everybody is talking about social media. Actually, it's all about data and information, but can we trust the enormous data from social media? In the afternoon workshop of the November meeting, Michael Wallis from SAS Institute will present methods and applications to determine the integrity of safety-related data in social media for medical devices.

If you have been to SAS conferences in the past year, you must have heard of "Visual Analytics", it is a tool for data visualization, analytics, and reporting. Rick Styll from SAS institute will give the featured presentation on building dashboards using SAS Visual Analytics. I am sure you will be amazed when you look at the graphs generated from this new SAS product.

The second talk in the evening meeting will be presented by Ben Porter on cross-classified models. He will go through examples and discuss the implications in various situations using PROC MIXED. You can find more details of these presentations on the next pages. I look forward to seeing all of you at the meeting!

When you are reading this newsletter, you may still have a chance to go to the WUSS annual conference, which will be held at Planet Hollywood in Las Vegas from November 13 to 15. This is another great opportunity to learn new SAS features, improve your SAS skills, and to network with other fellow SAS users.

At this special annual time slot, I would like to thank all of the SANDS executive committee members and presenters for their hard work providing great service to our members! Please send them your kudos to show them that you noticed their dedication and hard work. And last but not least; I thank all of you who support the group by attending our meetings.

I wish everyone a wonderful holiday season!

— **Wei Cheng**

[Pfizer Global R&D, La Jolla Labs](#)
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[Building CB2, Room 1110*](#)
[San Diego, CA 92121](#)

Please fill out the RSVP form for the workshop and/or meeting by Friday, Nov 15th, at
<http://www.sandsug.org/meetings.html>.

Workshop: Methods and Application for Determining the Integrity and Veracity of Medical Device Safety-Related Data in Social Media

Abstract

As more individuals, organizations, and institutions rely on the Internet for information to support decision-making, the integrity and veracity of that data have become a critical issue. A key area of interest is the applicability and utility of social media data for device safety monitoring. Such data offer a potentially valuable resource for post-marketing device safety surveillance by the industry and regulators. Adoption of this data as a resource has been hampered by concerns related to accuracy, reliability, and a lack of guidance from regulators. We propose a method for applying a “veracity score” to data that has been collected and prepared for safety analysis from a variety of Internet sources, including social media.

Biography

Michael D. Wallis is a SAS Analytics Consultant, operating out of the Advanced Analytics division, specifically within the Text Analytics group. In this role, Michael provides direct support for both internally- and externally-facing personnel (e.g., SAS Pre-Sales, Consulting, SAS PSD, Direct Customer) regarding any and all things “Text Analytics.” Coming from the perspective of R&D, Michael’s work focuses on applied use of all SAS Text Analytics products and to understand what underlying algorithms, technological requirements, and research efforts go into our products and solutions. His background includes 15 years of active software development and research in the areas of natural language processing, computational linguistics, machine learning, and data mining. Michael completed his B.S. and M.S. programs in Computer Science at North Carolina State University in the years 2002 and 2011 respectively.

Featured Presentation: Fast Dashboards Anywhere with SAS® Visual Analytics

Abstract

Dashboards can be the best starting point to provide a high-level view of the most relevant information to monitor, analyze, and collaborate around business performance. A growing number of organizations are creating dashboards to improve fact-based decision-making, but if the dashboards fail to return results quickly or are difficult to understand, user adoption will soon wane. SAS Visual Analytics includes an authoring interface called Designer that lets you build responsive, well-formatted and effective dashboards that allow users to:

- Place, size, and style objects precisely.
- Interact between objects.
- Drill and expand.
- Collaborate.
- Share results on the Web and mobile devices.

SAS Visual Analytics provides fast, effective dashboards anywhere, regardless of how big your data may be.

Biography

Rick Styll leads the Product Management team for Business Intelligence Tools at SAS, Institute. Rick and his team are responsible for driving the direction and specific enhancements to query and reporting, dashboards, OLAP, Portal, Microsoft Office integration, visualization and application development technologies. Prior to joining SAS in 2002, Rick was an Information Technology professional for ten years, serving the roles of software developer, data modeler, and decision support specialist.

Short Talk:

Cross-Classified Models: Because Everything Isn't a Nesting Doll

Abstract

Hierarchical modeling has become a standard method of analysis in many different fields like education (students within teachers within schools), business (workers within supervisors), and health (time-points within patients within doctors). However, strict hierarchical modeling can only model systems where everything is (or is made to be) nested with one unit inside a higher-level unit inside another higher-level unit, and so on. Cross-classified models allow for non-hierarchical nesting and are relatively easy to implement using the MIXED procedure. I will go through an example of student reading outcomes nested beneath both the primary and secondary school they attended (the equivalent to elementary and high school) with the goal to examine the proportion of variance in reading scores explained by which school students attended. Cross-classified models are ideal for many different situations and I will discuss implications of using them in various fields.

Biography

Dr. Ben Porter is a recent graduate from University of Houston. He has been coding in SAS for five years and once he found it, quickly fell in love with PROC MIXED. His research has focused on romantic relationship, but he really enjoys a good model and so is really just interested in anything with numbers. He has performed work in education, training, military, health, mental health, and social networking.



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Stump the Programmer #66

Counting Missing Values

Art Carpenter, CA Occidental Consultants

In this Stump the Programmer problem, the author of this DATA step wants to count the number of missing values in a list of variables. The programmer has chosen to use the NMISS function, which he calls the “Number MISSing” function. Does he get the right answer? Why not? Can you suggest a better solution (or two)?

```
* What is the number of missing
values?;
data a;
  x=1;
  y=.;
  a='a';
  b=' ';
  misscnt=nmiss(x,y,a,b);
  put misscnt=;
run;
```

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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](mailto:Cathy.Liu): Name, Title, Organization, Telephone, E-mail, Fax, Address, Work or Home indicator, Computer Platform, SAS version, and SAS related areas of interest.

SANDS Sponsorship

We would like to thank Pfizer for having once again generously provided our meeting room. This month, the SANDS Executive Committee 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](mailto:Tyler.Smith) and [Vivian Huang](mailto:Vivian.Huang).

Tips for Using a Data Warehouse

Curtis Smith, Defense Contract Audit Agency

In our last episode, we considered a handy way to create new rows in a data set. This time, we will explore ways to use macro variables to make our SAS code easier to program and maintain when using our SAS data warehouse.

Let's go way back to our SAS data warehouse model. (In case you haven't been reading that long, we defined our model more than a dozen years ago!) We have four types of data, for several business segments, covering multiple years. So, we created a separate SAS data library for each business segment and year combination. Within each SAS data library, we keep a SAS data set for each of the four types of data. This allows us to name the same type of data for each business segment and year with the same name. That is, we can call all of year-to-date labor files 'lbr_ytd' while maintaining distinct files for each combination of business segment and year. So, within each SAS data library, we have files that contain labor (lbr), material (mtl), overhead (ovh), and work-in-process (wip); for each of those, we have data at levels for month-to-date (mtd), year-to-date (ytd), inception-to-date (itd); and for each of those, we have summary (sum) and detail (dtl).

A simple Data Step we need might look like the following (for business segment AB, for year 2013, and using the SAS data set for labor at the YTD level):

```
libname ab2013 'c:\sas\data\library\ab2013';
data work.subset;
  set ab2013.lbr_ytd(where=(amount gt 0 or amount lt -0));
run;
```

But, later we might want to run the same code using the library for business segment XY, for year 2010, and using the SAS data set for material at the detail level. We could hardcode the changes each time we want to run the code against different libraries and files, or we could use a more elegant solution: macro variables.

Let's get some background on macro variables from the SAS Institute. (Sas(r) 9.2 macro, 2013)

Macro variables are tools that enable you to dynamically modify the text in a SAS program through symbolic substitution. You can assign large or small amounts of text to macro variables, and after that, you can use that text by simply referencing the variable that contains it.

Using a macro variable is simple, as stated in the SAS reference: (Sas(r) 9.2 using, 2013)

After a macro variable is created, you typically use the variable by referencing it with an ampersand preceding its name (&variable-name), which is called a macro variable reference. These references perform symbolic substitutions when they resolve to their value. You can use these references anywhere in a SAS program. To resolve a macro variable reference that occurs within a literal string, enclose the string in double quotation marks.

We use the %let statement to assign a macro variable and we replace the hardcoded values with the macro variable references. Because there are four variables to our SAS data library and SAS data set names, we will need four macro variables: business segment ("bu"); year ("yr"); data type ("dt"); and data level ("dl"). So, we can do something like the following:

```
%let bu=XY;
%let yr=2010;
%let dt=MTL;
%let dl=DTL;
```

Then, we just simply use these macro variable references in our SAS code, as follows:

```
libname &bu.&yr. "c:\sas\data\library\&bu.&yr.";
```

```
data work.subset;  
  set &bu.&yr..&dt._&dl.(where=(amount gt 0 or amount lt -0));  
run;
```

(Note that we can explicitly tell SAS where a macro variable reference ends by using a period after the macro variable name and if a period exists in the SAS code following a macro variable name, we use a double period.)

There is a wealth of documentation about macro variables within the SAS on-line documentation, and some excellent books by some very famous SAS users.

Thanks for reading.

Curtis Smith, IT Technical Specialist

(2013). Sas(r) 9.2 macro language: reference, fourth edition, introduction to macro variables. Cary, NC: SAS Institute, Inc. Retrieved from <http://support.sas.com/documentation/cdl/en/mcrolref/61885/HTML/default/viewer.htm#a002293823.htm>

(2013). Sas(r) 9.2 using macro variable: reference, fourth edition, introduction to macro variables. Cary, NC: SAS Institute, Inc. Retrieved from <http://support.sas.com/documentation/cdl/en/mcrolref/61885/HTML/default/viewer.htm#a001071889.htm>

Kirk's Korner

Kirk Paul Lafler, Software Intelligence Corporation



Google® Search Tips and Techniques for SAS® Users

Google® (www.google.com) is the world's most popular and widely-used search engine. As the premier search tool on the Internet today, SAS® and JMP® users frequently need to identify and locate SAS and JMP content wherever and in whatever form it resides. This tip provides a number of search tips and techniques for finding articles of interest, reference works, information tools, directories, PDFs, images, current news stories, user groups, and more to get search results quickly and easily.

Better Searches = Better Results

For many SAS users, the ability to conduct successful searches is not only important, it may be an essential activity required by their job. While adhering to rules, the Google search engine interprets your search requests, specified as one or more keywords, to deliver the “best” results possible; in the end, the derived results are only as good as the search terms provided. The following tips and techniques are designed to help you achieve better searches and better results. After all, becoming a savvy Google search user begins with learning and applying effective tips and techniques.

Basic Search Tips and Techniques

Understanding basic search techniques gives you incredible power to find what you are looking for quickly and easily. In addition to this, you may actually find content you didn't plan for, but adds value to your query results. Table 1 below, presents a number of basic search tips and techniques you may find useful the next time you prepare a search query.

Tip/ Technique	Description	Example
Keep it Short	Limit the number of search words specified for greater accuracy in the generation of search results.	sascommunity
Be Specific	When entering your search, be as specific as possible. Avoid generic (or vague) references when entering search words.	BOOK proc sql <or> BOOK jmp
Use Quotes	Search the words in the exact order specified.	"sas hash" <or> "proc sql"
Search a Website	Have your search results come from a specific website.	hash SITE:www.sas.com
Wildcard (*)	The asterisk (*) is used as a placeholder (or wildcard) for unknown words.	sas blogs * <or> jmp blogs *
AND <or> and	The AND (CAPS doesn't matter) is the default logical operator that Google uses between two or more words to search web content, and is therefore not required. Specifying 'and' in lowercase or 'AND' in UPPERCASE produces the same results.	sas AND jmp <or> sas and jmp
OR <or> 	The OR (in all CAPS) tells Google to search either one of several words. The pipe symbol () can be substituted for the OR.	sas OR jmp
- (Minus sign)	A word not wanted in a search query can be excluded by specifying a - (minus sign) before the word. Note: A blank space should precede a - (minus sign) to avoid confusing it with a hyphenated word.	sas -airline <or> jmp - medical
Excluding Words	More than one word can be excluded from your search query by specifying a - (minus sign) before each word.	sas -airline -shoes
Computations	Google can perform basic arithmetic computations.	77 x 119 <or> pi x 7

Advanced Search Tips and Techniques

Google offers advanced search tips and techniques which are worth knowing for searching specific file types, results between two values, within a specific date range, and from related websites, as shown in Table 2.

Tip/Technique	Description	Example
FILETYPE: (File Type)	Google automatically displays all available file types by default but can be told to display specific file types using the FILETYPE: operator. The values for FILETYPE: include: DOC, DWF, KML, KMZ, PDF, PPT, PS, RTF, SWF, and XLS.	sas FILETYPE:PDF
\$nn...\$nn (Price Range)	Google can show search results for PROC SQL books priced \$19 to \$50 by using three dots between the numeric values.	proc sql book \$19...\$50
DATERANGE:yyyymm (Date Search)	Google can show search results containing information and news from a specified date using the DATERANGE: operator. Note: The date range value is expressed as DATERANGE:YYYYMM where YYYY=year and MM=month.	'sas hash' DATERANGE: 201206
RELATED: (Sites that are Similar)	Google can show search results from websites that are similar (in the opinion of Google) by specifying the RELATED: operator.	jmp RELATED:www.jmp.com

Contact Information

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Acadia Pharmaceuticals, Inc.: Job Posting

Position: SAS Programmer

Role: Work closely with other programmers, biostatisticians, and clinical data managers in supporting the collection, analysis, and reporting of clinical data for phase I-IV studies

Responsibilities:

- Following SDTM (Study Data Tabulation Model) Implementation Guide, assist in producing CDISC-compliant SDTM datasets
- Following statistical analysis plan, develop and execute derivation algorithms for producing analysis datasets and statistical analyses
- Produce data listings, summary tables and graphs using SAS software
- Independently validate data listings, summary tables and graphs
- Handle import and export of data
- Assist data management group in performing data edit checks
- Review case report forms (CRF/eCRF) and provide comments
- Understand and conduct work consistent with GCP, ICH, 21 CFR part 11, internal SOPs and training, and international regulatory requirements

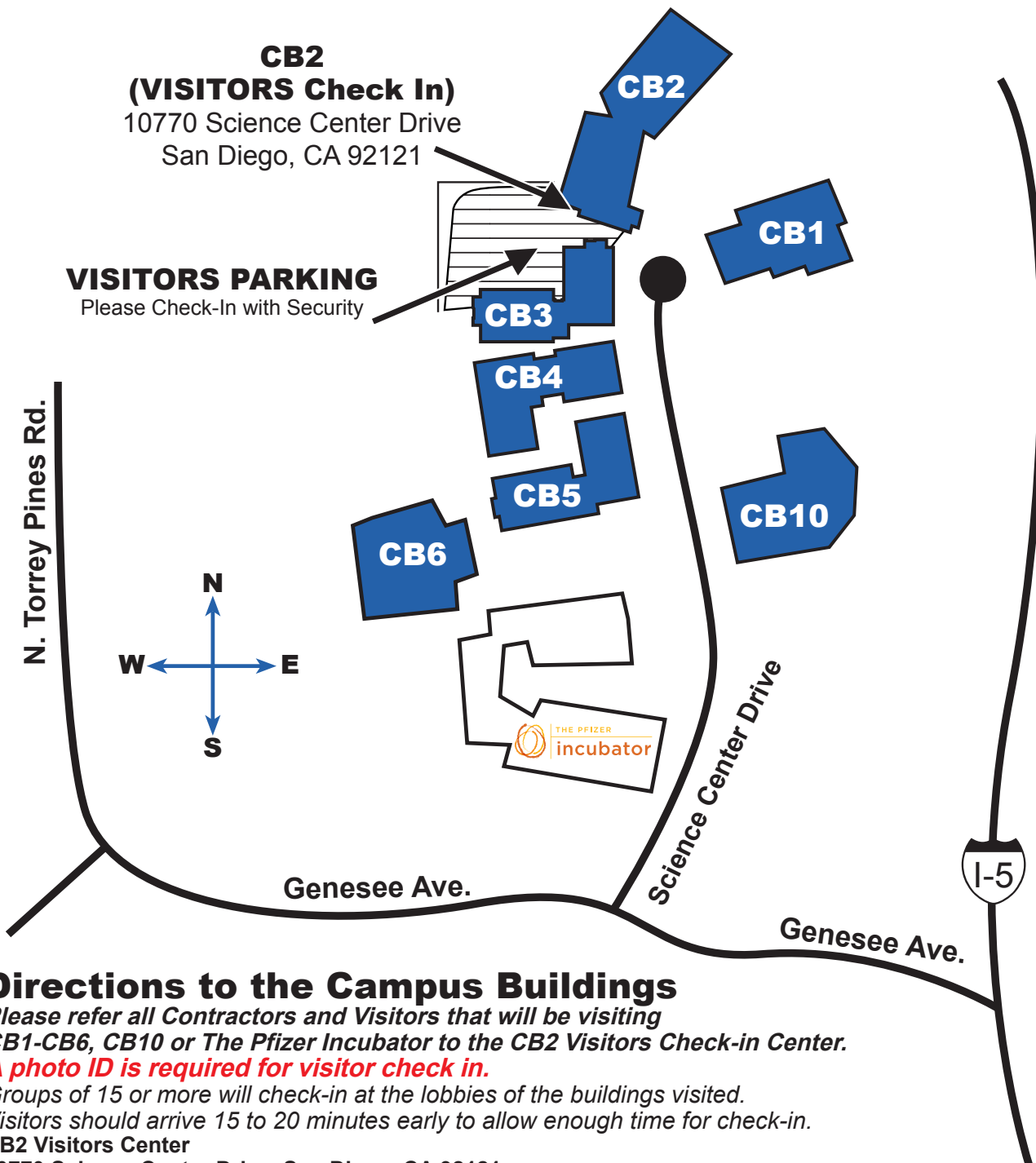
Experience/Qualifications

- Experience with clinical trial data is required
- Experience with SAS programming including base SAS, Macro, Stat, ODS, Graph, and advanced inferential statistics procedures (e.g., proc mixed, proc genmod, proc phreg). SAS certification is preferred.
- Experience with industry data standards such as CDISC SDTM/ADaM
- Exposure to statistical graphics software is required
- Strong communication skills, teamwork, and attention to detail are crucial.
- Working knowledge of GCP, ICH, 21 CFR part 11, or other international regulations
- Proven ability to handle multiple projects simultaneously, take initiative, and work independently

Education Qualification

- Bachelor's degree in Statistics, Epidemiology, Mathematics, Computer Science, Engineering or related field.

Map to Pfizer La Jolla Campus



Directions to the Campus Buildings

Please refer all Contractors and Visitors that will be visiting CB1-CB6, CB10 or The Pfizer Incubator to the CB2 Visitors Check-in Center.

A photo ID is required for visitor check in.

Groups of 15 or more will check-in at the lobbies of the buildings visited.

Visitors should arrive 15 to 20 minutes early to allow enough time for check-in.

CB2 Visitors Center

10770 Science Center Drive, San Diego, CA 92121

From San Diego International Airport.

Follow signs to I-5 North.

Proceed on I-5 North for approx. 10 miles.

Exit I-5 at Genesee Ave. and make a left at the stop light.

Make a right at the second stop light which will be Science Center Drive.

CB2 Visitors Center is located at the end of the cul-de-sac.

Visitor Parking is to the left. **Please follow Visitors Signs.**



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