

# SANDS Newsletter

## FEBRUARY 22, 2012

**3:00 - 5:00**

### WORKSHOP

Proficiency in JMP Techniques for  
Data Visualization

Charles Edwin Shipp  
Shipp Consulting

**5:15 - 6:00**

### LIGHT DINNER / NETWORKING

**6:00 - 6:20**

### WELCOME / SANDS BUSINESS

**6:20 - 7:10**

### FEATURED PRESENTATION

SAS® Fundamentals for Survey  
Data Processing

Renato G. Villacorte  
Fairbank, Maslin, Maullin &  
Associates

**7:10 - 7:50**

### SECOND PRESENTATION

Undocumented and Hard-to-Find  
PROC SQL® Features

Kirk Paul Lafler  
Software Intelligence  
Corporation

**7:50 - 8:15**

### STUMP THE PROGRAMMER AND CODERS' CORNER

**8:15 - 8:30**

### DOOR PRIZES AND GIVEAWAYS

[Pfizer Global R&D, La Jolla Labs](#)  
[10770 Science Center Drive](#)  
[Building CB2, Room 1110\\*](#)  
[San Diego, CA 92121](#)

Please RSVP for the workshop  
and/or meeting by Wednesday,  
Feb. 15th, to [Wei Cheng](#) at (760)  
603-3807.

## From the President

2012 is here. Happy Leap Year MMXII! When I realized it, it is already February! That is because I had a very busy schedule at work in January, and I watched the Australian Open while I was not working. On February 5th, more than 100 million Americans watched Super Bowl XLVI to see the Giants take home the Lombardi trophy!

Also this month, we will have our first SANDS meeting for 2012. Our featured speaker, Renato Villacorte, from Fairbank, Maslin, Maullin, Metz & Associates or FM3, will be showing us how to use SAS to process survey data. The second presenter, Kirk Paul Lafler, from Software Intelligence Corporation, will help SAS users unlock many hard-to-find features of PROC SQL. In the afternoon, Charles Edwin Shipp, from Shipp Consulting, will show us the JMP techniques for data visualization. All the speakers are experienced presenters; I look forward to their presentations.

SAS Global Forum 2012, the premier event for SAS® professionals worldwide, will be held in Orlando, Florida, April 22-25, at the beautiful Walt Disney World Swan and Dolphin Resort. Check it out: <http://support.sas.com/events/sasglobalforum/2012/index.html>.

The 2012 Joint Statistical Meetings (JSM) will be held in San Diego, July 28 – August 2, at the San Diego Convention Center. This is the largest gathering of statisticians held in North America. (<http://www.amstat.org/meetings/jsm/2012/>)

February is election time for SANDS! SANDS has three annually-elected positions on the Executive Committee open to any SANDS member: President, Vice President, and Secretary/Treasure. If you are interested in running, please email me your name and the position. At the February meeting, we will take nominations from the floor as well. To vote in the election, you will need to be present during the business portion of the meeting. 2012 is an election year. Please show up at the meeting and VOTE!

Our vice president and newsletter editor Archie Medrano created this new nice-looking format for our 2012 newsletter. I encourage you send your comments or write something to him, so we can publish it in the “Letters to Editor” section. We would like to see more interactions between our members and our EC members. We have a hardworking team of EC members who are dedicated in making the SANDS meetings as good as possible. Also, last but not least, be sure to look at our advertisement and sponsorship. Without the support of our sponsors and advertisers, SANDS meetings could not be held without any cost to our members. I would like to personally thank all of the EC members for the wonderful work they did in the past year. To those of you who are new to SANDS, feel free to ask any member of the SANDS EC if you have questions about SANDS.

See you at the meeting!

— Wei Cheng

**Workshop:**  
**Proficiency in JMP Techniques for Data Visualization**  
**Charles Edwin Shipp, Shipp Consulting**

**Abstract**

Explore the power of JMP visualization using statistical graphics. After showing the basics of JMP platforms, we use examples to show the breadth and depth of the JMP suite of platforms. The five steps of discovery include: 1. Describe; 2. Design; 3. Collect; 4. Fit; and 5. Predict. JMP software includes tools for all five steps and we describe the key routines we like best with examples. We will have time for questions, answers, and discussion.

**Biography**

Charles Edwin Shipp is a programmer, consultant and author, and has been using the SAS and JMP software since 1980. He is credited in the original JMP manual for his roles in the early days. He has written more than one hundred papers and has been an invited speaker at more than one hundred International, regional, local, and special-interest SAS and JMP conferences and meetings, author of three books including the ever-popular Books by Users (BBU) book, *Quick Results with SAS/GRAPH Software*. Currently, Charlie is involved as an eBook author, [sasCommunity.org](http://sasCommunity.org) Advisory Board member, application developer, consultant for Trivani Foundation International, and consultant in JMP and JMP Genomics.

**Featured Presentation:**  
**SAS® Fundamentals for Survey Data Processing**  
**Renato G. Villacorte, Fairbank, Maslin, Maullin & Associates**

**Abstract**

This presentation offers several programming solutions to problems and challenges that commonly confront survey researchers. Arrays and Do Loops are presented as methods for handling data cleaning and transforming. Proc FREQ, TABULATE, and MEANS are demonstrated for elementary analyses. Lastly, formatting techniques are used to improve analyses and enhance the clarity of output. A small number of advanced techniques are also demonstrated for more experienced programmers.

**Biography**

Renato Villacorte is the Senior Vice-President of Information Systems at the public opinion research firm of Fairbank, Maslin, Maullin, Metz & Associates or FM3. He leads a team of SAS programmers with proficiency skills ranging from student novice to certified BASE programmer. Together, they work on survey research data involving public policy analyses and campaigns for political office. Renato has worked on notable political campaigns such as Jerry Brown for Governor, and Prop 71, the stem cell initiative in California. He has also worked on popular advertising campaigns like those for certain Indian Gaming Casinos and Southern California Edison. Prior to joining FM3, Renato has worked in Market Research, taught undergraduate statistics at Cal State Los Angeles, and served in the U.S. Marine Corps. He is a graduate of Cal State Los Angeles and UC Berkeley. He has been a SAS user for over 11 years and is a certified BASE programmer.

**Second Presentation:**  
**Undocumented and Hard-to-Find PROC SQL® Features**  
**Kirk Paul Lafler, Software Intelligence Corporation**

**Abstract**

The SQL Procedure contains many powerful and elegant language features for experienced SQL users. This paper introduces SQL topics that will help users unlock many hidden features, options, and other hard-to-find gems in the SQL universe. Topics include: conditional logic scenarios using case expressions; techniques on implementing table integrity constraints; an in-depth analysis of indexes and their uses; complex queries with join and set operators; integrating DICTIONARY tables with the macro language; and performance tuning techniques to improve query processing.

**Biography**

Kirk Paul Lafler is consultant and founder of Software Intelligence Corporation and has been programming in SAS since 1979. He is a SAS Certified Professional, SAS Institute Alliance Member (1996 – 2002), and provider of IT consulting services and training to SAS users around the world. As an author of four books including *PROC SQL: Beyond the Basics Using SAS* (SAS Institute, 2004), he has written nearly five hundred peer-reviewed papers, been an Invited speaker at more than three hundred SAS International, regional, local, and special-interest user group conferences/meetings, and is the recipient of 19 “Best” contributed paper, HOW, and poster awards.

## Tips for Using a Data Warehouse

### Curtis Smith, Defense Contract Audit Agency

In our last episode we looked at a couple of my favorite operators available when using the WHERE statement. This time, we will discuss how to use a macro variable to control flexibly-written SAS application code.

Remember our data warehouse model? We have several business units, several years of data, and several data files. So, we arrange each different data file into a different SAS data library, one library for each combination of business unit and year. So, if we want to run a PROC REPORT using the IND\_DTL file vs. the WIP\_DTL file from the library for business unit AB for 2010 vs. the library for business unit XY for 2011, we could simply substitute macro variables in our code for the data file name, the business unit code, and the year. We could also make the code even more flexible by using macro variables for the variable names within the data file. SANDS' own Art Carpenter has written the definitive books and papers on macro variables. So, I won't discuss here how they work. Instead I will show a simple code example with a few explanations.

Let's assume that our SAS data libraries are stored on a drive designated D: in folders that are named with the two-character business unit code and the year (for example, "D:\AB2010"). We can simply replace the variable information in the names within our SAS code with macro variables. Consider the code example below.

```
%LET bu=AB;
```

```
%LET fy=2010;
%LET myfile=WIP_DTL;
%LET myvar=ACCOUNT;
```

SAS will resolve the macro variables and address the desired SAS data library, SAS data file, and variable. Using the macro variables above, we insert them into our SAS PROC REPORT code as follows.

```
LIBNAME &bu.&fy. "d:\&bu.&fy.";
OPTIONS PAGENO=1;
ODS LISTING CLOSE;
ODS HTML
  FILE="C:\RESULTS\&bu.&fy..REPORT.HTML"
  STYLE=STATDOC;
PROC REPORT
  DATA=&bu.&fy..&myfile. NOWINDOWS;
  COLUMN &myvar. AMOUNT;
  DEFINE AMOUNT /SUM
    WIDTH=10
    FORMAT=COMMA10.0 "AMOUNT" /*'--'*/;
  RBREAK AFTER /DUL DOL SUMMARIZE;
RUN;
ODS HTML CLOSE;
```

Upon compilation, SAS will resolve the code as follows:

```
LIBNAME AB2010 "d:\AB2010";
OPTIONS PAGENO=1;
ODS LISTING CLOSE;
ODS HTML
  FILE="C:\RESULTS\AB2010.REPORT.HTML"
  STYLE=STATDOC;
PROC REPORT
  DATA=AB2010.WIP_DTL NOWINDOWS;
  COLUMN ACCOUNT AMOUNT;
  DEFINE AMOUNT /SUM
    WIDTH=10
    FORMAT=COMMA10.0 "AMOUNT" /*'--'*/;
  RBREAK AFTER /DUL DOL SUMMARIZE;
RUN;
ODS HTML CLOSE;
```

Cool. Thanks for reading.

Curtis Smith  
IT Technical Specialist

## Kirk's Korner

**Kirk Paul Lafler, Software  
Intelligence Corporation**

### Creating Custom SAS Functions with the FCMP Procedure

The SAS System provides users with the ability to create, store and access custom functions using the Function Compiler (FCMP) procedure. Once defined with PROC FCMP, a user-defined function can be used, or called, just like any other SAS function in the SAS System. This powerful capability gives users the ability to process and maintain code as independent and reusable subroutines. PROC FCMP functions are stored in a data set and can be used in a DATA step, a WHERE statement, with Output Delivery System (ODS), and numerous procedures including PROC CALIS, PROC COMPUTAB, PROC GENMOD, PROC MODEL, PROC NLIN, PROC NLMIXED, PROC NLP, PROC PHREG, PROC REPORT, PROC SIMILARITY, and PROC SQL. The following example illustrates the syntax used to create and call the custom user-defined function with the FCMP procedure.

#### Example Code:

```
/* An IF condition is used inside FCMP to
   control the logic of returning the value
   of PROFIT */
proc fcmp
outlib=sasuser.myfunctions.examples; /* Data
Set where Function is Stored */
   function Business_Profit
(revenue,expense); /* Specifies the Name of
Function */
   if revenue NE . and expense NE . then
do;
   profit = revenue - expense;
```

```
end;
else profit = 0;
   return(profit); /* Specifies the Value
Returned from the Function */
endsub; /* Terminates the Function
Subroutine */
quit;

options cmplib=sasuser.myfunctions; /*
Identify CMP Libraries for Linking */

/* Call the User-defined function created
with the FCMP Procedure */
data compute_profits;
   input @1 Company_Name $19. @20 Revenue
commal3. @35 Expense commal3.;
   Profit = Business_Profit
(revenue,expense); /* Call User-defined
Function */
   format revenue expense profit dollar13.;
   datalines;
ABC Corporation 2,000,000 1,450,000
XYZ Inc.        11,750,500 13,000,000
Xtreme Tech     3,500,000 1,400,000
Conversions Inc.
;
run;

proc print data=compute_profits noobs;
run;
```

#### Output Results:

Company Name	Revenue	Expense	Profit
ABC Corporation	\$2,000,000	\$1,450,000	\$550,000
XYZ Inc.	\$11,750,500	\$13,000,000	-\$1,249,500
Xtreme Tech	\$3,500,000	\$1,400,000	\$2,100,000
Conversions Inc.	.	.	\$0

## Stump the Programmer

### #59

**Art Carpenter, CA Occidental  
Consultants**

This problem goes to the heart of the way that the DATA step is executed. This simple program reads the two observations from the data set WORK.A in the second step, and executes without errors. But notice that the PUT statement has been placed before the SET statement. The questions to be answered are:

1. How many times does the PUT execute?
2. What are the values of X and \_N\_ for each execution?
3. Most importantly; why?

```
data a;
  x=1; output;
  x=2; output;
run;
```

```
data b;
  put x= _n_=;
  set a;
run;
```

## Data Explorations

**Data Management & Analyses for Biological,  
Ecological & Health Sciences.**

**SAS® Programming Services:** Extensive experience with SAS macros, SAS/STAT®, SAS/GRAPH®, SAS/AF®, SAS/FSP®, & SAS Component Language.

Statistical and data analysis support for clinical trial studies. Data entry and reporting systems. Application Development. Database conversion services. SAS Training services. Experimental Design and Data Management.

Data Explorations is a SAS Alliance Affiliate Member™ with SAS Advanced Certified Professionals.



**Art Carpenter & Richard Smith - Partners**

(907) 865-9167 Art

(760) 613-5373 Richard

Email: Art: [Art@DataExplorations.com](mailto:Art@DataExplorations.com)

Richard: [RSmith@DataExplorations.com](mailto:RSmith@DataExplorations.com)

Web: <http://www.DataExplorations.com>

## SANDS Membership

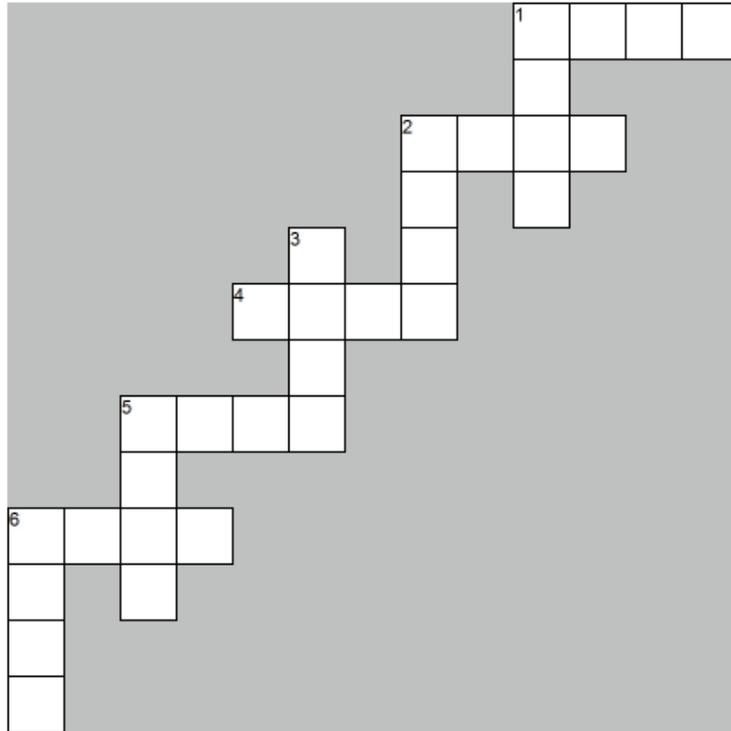
Membership in the San Diego SAS Users Group, Inc. (SANDS) provides an opportunity for SAS users to meet and keep updated on SAS issues. Seminars and presentations allow SAS users to gain knowledge with little or no cost. It is also an opportunity for consultants and prospective employees to meet possible 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.

# What's New in SAS 9.3? (Part 2 of 2)

Copyright © 2012 by Kirk Paul Lafler



This puzzle was made by Kirk Paul Lafler, Software Intelligence Corporation using Crossword Weaver(TM)

## ACROSS

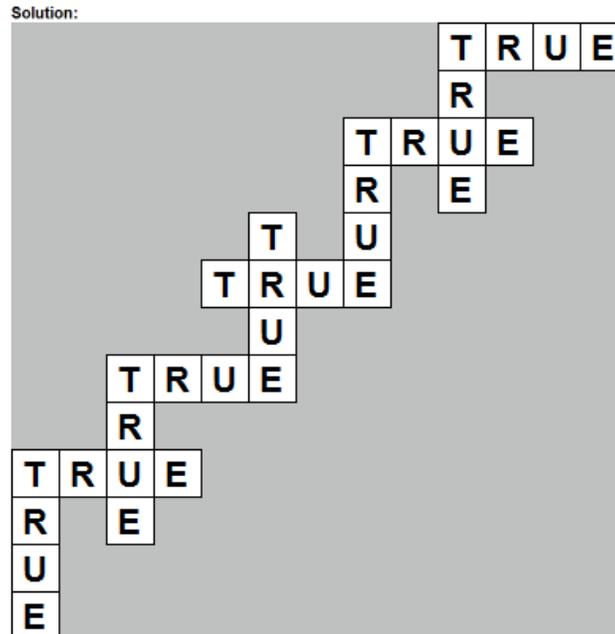
- 1 (True/False) The Graph Template Language (GTL), the ODS Graphics Procedures, the ODS Graphics Designer, and the ODS Graphics Editor are part of the Base SAS Software which means that a SAS/GRAPH license is no longer needed for ODS Graphics?
- 2 (True/False) A new RESETLINE statement restarts the SAS Log program numbering back to 1?
- 4 (True/False) The Microsoft Excel 2007 and 2010 file format .xlsx under Microsoft Windows, UNIX, and Linux is now supported by the IMPORT procedure.
- 5 (True/False) In SAS Enterprise Guide 4.3 explicit pass-through mode can be selected to send SQL statements directly to the database for processing?
- 6 (True/False) The PRINT procedure is now completely integrated with the Output Delivery System?

## DOWN

- 1 (True/False) WHERE conditions are optimized with an index using the SUBSTR (left of=) function?
- 2 (True/False) The new default value for the MEMSIZE system option in a Windows environment is 2G?
- 3 (True/False) The new default value for the SORTSIZE system option in a Windows environment is 256M?
- 5 (True/False) For users of JMP 7 or a more recent release of JMP, data files can be sent directly from SAS Enterprise Guide to JMP?
- 6 (True/False) A new SAS informat exists for reading hours, minutes, and seconds in the form of hhmss or hh:mm:ss?

# What's New in SAS 9.3? (Part 2 of 2)

Copyright © 2012 by Kirk Paul Lafler



Improve your programming skills



## Leading-Edge SAS® Software Training in La Jolla

If you're looking for the most up-to-date, latest breaking technical information in SAS software, Software Intelligence Corporation's training prepares you for tomorrow, today. We bring users the latest features and cutting-edge advances and upgrades – information that will put you a step ahead of the competition. We offer a combination of lecture, demonstrations and hands-on training around the world.

- ❖ *Exploring SAS Enterprise Guide® (EG) Programming Capabilities (3-hours) - \$125.*
- ❖ *JMP® Basics You Can Use - Exploring the World of Data Discovery (4-hours) - \$150.*
- ❖ *Building Custom SAS® Functions and Subroutines with PROC FCMP (3-hours) - \$125.*
- ❖ *PROC SQL Programming: The Basics and Beyond (4-hours) - \$140.*
- ❖ *Output Delivery System: The Basics and Beyond (4-hours) - \$140.*
- ❖ *Building Reusable Tools with the SAS® Macro Language (4-hours) - \$140.*
- ❖ *Exploring SAS® Hash Programming Techniques (3-hours) - \$125.*
- ❖ *Advanced SAS® Programming Techniques (4-hours) - \$140.*
- ❖ *SAS® Performance Tuning Techniques (4-hours) - \$140.*

For details about these popular and affordable classes, specific dates and locations, as well as reserving a seat, send an email to [KirkLafler@cs.com](mailto:KirkLafler@cs.com) or request information by phone at 619-277-7350.

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.

## SANDS Sponsorship

We would like to thank the following companies and organizations for sponsoring our February meeting:

- [Gerard Group](#)
- [Experis](#)
- [Pfizer](#) (for providing our meeting room)

Pfizer has once again provided us our meeting room, while Gerard Group and Expertis are generously sponsoring our February 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 coordinator, [Tyler Smith](#).



### The mission of Synchrony Solutions is simple:

To provide your company with timely and effective search solutions that exceed expectations. Our business is about relationships. We build our network, and our reputation, one person at a time, every time. When you have a position that needs to be filled, or you are ready to find your next opportunity, let us do the work for you!

Biostatisticians & Statisticians  
 SAS Programmers  
 Clinical Data Managers/Coordinators  
 Clinical Research Associates  
 Regional CRAs  
 Clinical Study Managers  
 Director Clinical Operations  
 Medical Writers  
 Regulatory Affairs Specialists  
 Senior Management  
 Project Management  
 Analysis  
 Programming & Development  
 Production Support  
 LAN/WAN engineering  
 Desktop network engineering  
 Help Desk Support  
 Web Developers  
 Software Developers

[molly@synchrony-solutions.com](mailto:molly@synchrony-solutions.com)  
**Phone: 1-866-272-1228**

[www.synchrony-solutions.com](http://www.synchrony-solutions.com)



*Recruitment Specialists since 1980*

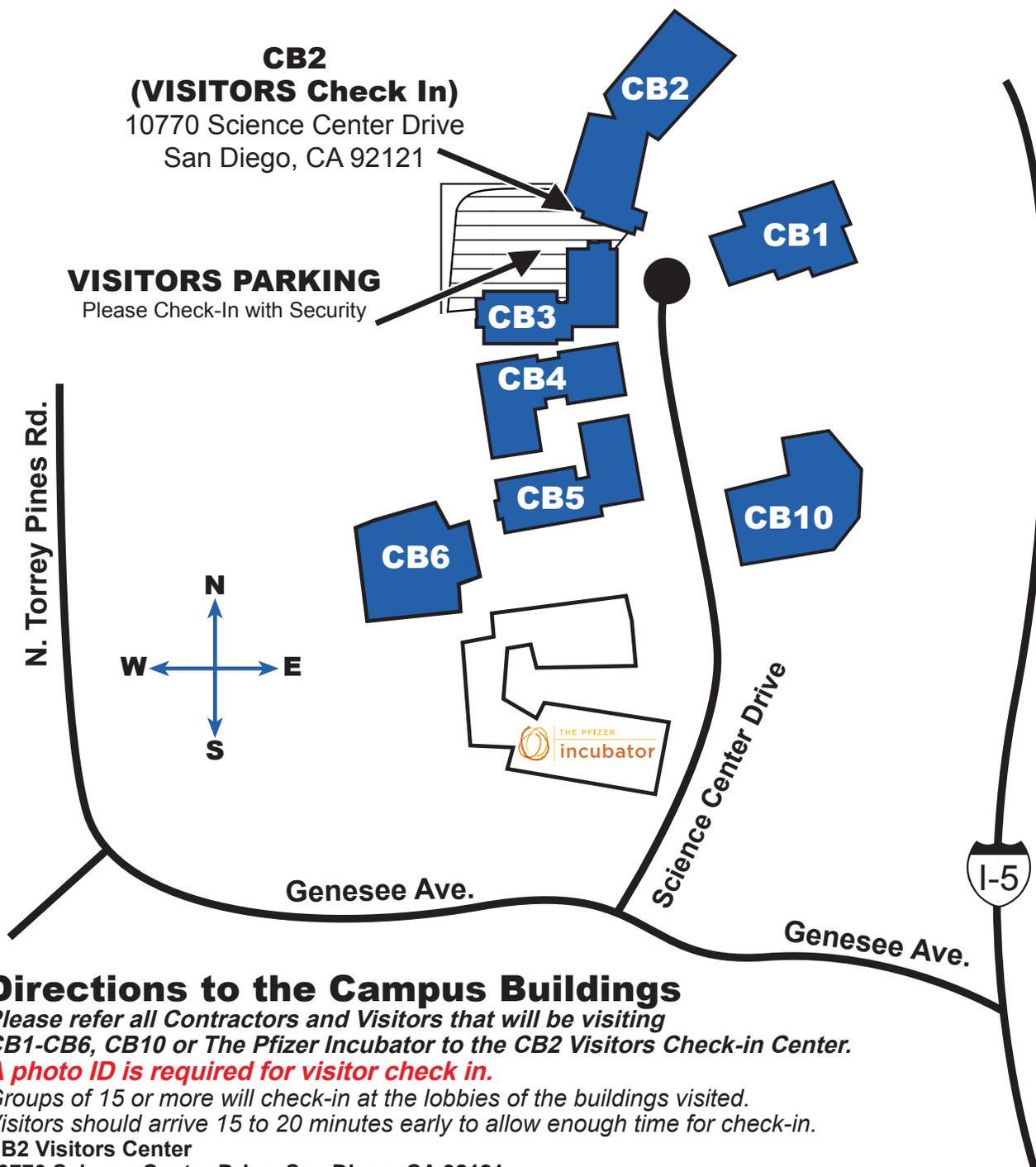
*SAS Programming • Statistics  
 Data Management • Clinical Research  
 Scientific • Medical Writing  
 Regulatory • Project Management  
 QA/QC Auditors • Outcomes Research*

Contract Staffing: [smithhanleyconsulting.com](http://smithhanleyconsulting.com)  
 Permanent Placements: [smithhanley.com](http://smithhanley.com)

# BRIDGING TALENT & OPPORTUNITY

an inVentiv health  company

# 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.**



CSLJ 194423 3/08

## SANDS EXECUTIVE COMMITTEE

### ELECTED OFFICERS

<b>President</b>	<b>Wei Cheng</b>	<b>760-603-3807</b>	<a href="mailto:wcheng@isisph.com">wcheng@isisph.com</a>
<b>Vice-President</b>	<b>Archie Medrano</b>	<b>858-550-0466</b>	<a href="mailto:amedrano@ucsd.edu">amedrano@ucsd.edu</a>
<b>Secretary/Treasurer</b>	<b>Song Lin</b>	<b>858-677-9637</b>	<a href="mailto:Song.Lin@nielsen.com">Song.Lin@nielsen.com</a>

---

<b>Advertisements</b>	<b>Tyler Smith</b>	<b>619-553-7593</b>	<a href="mailto:tsmith@nu.edu">tsmith@nu.edu</a>
-----------------------	--------------------	---------------------	--

Type	Dimensions (w x h)	Cost
Business Card	3.5" x 2"	\$25
Quarter Page	3.5" x 4.5"	\$50
Half Page	7" x 4.5"	\$125
Full Page	7" x 9"	\$225

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](mailto:tsmith@nu.edu).

---

<b>Catering</b>	<b>Ning Ding</b>		<a href="mailto:Ning.Ding@pfizer.com">Ning.Ding@pfizer.com</a>
-----------------	------------------	--	--

<b>Facilities Coordinator</b>	<b>Ren-Yu Tzeng</b>	<b>858-638-3979</b>	<a href="mailto:ren-yu.tzeng@pfizer.com">ren-yu.tzeng@pfizer.com</a>
-------------------------------	---------------------	---------------------	--

<b>Job Bank</b>	<b>Robert Hull</b>	<b>760-268-8003</b>	<a href="mailto:RHull@synteract.com">RHull@synteract.com</a>
-----------------	--------------------	---------------------	--

<b>Membership Coordinator</b>	<b>Cathy Liu</b>	<b>760-476-8800</b>	<a href="mailto:cliu@synteract.com">cliu@synteract.com</a>
-------------------------------	------------------	---------------------	--

<b>SAS Institute Liaison</b>	<b>Andrea Littleton</b>		<a href="mailto:Andy.Littleton@sas.com">Andy.Littleton@sas.com</a>
------------------------------	-------------------------	--	--

<b>Speakers/Program Coordinator</b>	<b>Scott Leslie</b>	<b>858-790-6685</b>	<a href="mailto:scott.leslie@medimpact.com">scott.leslie@medimpact.com</a>
-------------------------------------	---------------------	---------------------	--

<b>Sponsorship</b>	<b>Tyler Smith</b>	<b>619-553-7593</b>	<a href="mailto:tsmith@nu.edu">tsmith@nu.edu</a>
--------------------	--------------------	---------------------	--

---

<b>Newsletter Editor</b>	<b>Archie Medrano</b>	<b>858-550-0466</b>	<a href="mailto:amedrano@ucsd.edu">amedrano@ucsd.edu</a>
--------------------------	-----------------------	---------------------	--

Newsletter Production

If you have ideas or suggestions for the newsletter, please share them with us. We'd love to hear them!  
 Newsletter text not otherwise indicated was written or edited by the Editor. Please send any questions or comments to the Editor.

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.

® indicates USA registration.