I don't like using excuses, but the lateness of this issue has broken my New Year's Resolution, and it was caused by trying to fit too much work into too little time. A warning that thorough planning is always a good idea! Even though it is late I still have another newsletter issue for you filled with SAS news, hints and tips that I hope you will find interesting. In this issue of *VIEWS* News there are articles from our regular contributors LeRoy Bessler and Murphy Choy, with articles on avoiding overlapping pie chart labels, the Gini Coefficient, and analysing the stock market with candlestick charts. Instead of the usual articles from Amadeus Software, David Shannon is giving you the chance to try out the Amadeus Friday Quiz. Finally, my regular Formats, Options, and Functions section has another collection of unusual and underused features of SAS software.

If you would like to contribute an article, to re-visit and improve an existing article, or just discuss the possibility of doing so, please feel free to send an email to me at newsletter@views-uk.org. A list of subject suggestions for your articles can be found on the *VIEWS* web site, and anyone is very welcome to add to that list by sending emails to newsletter@views-uk.org with your own questions.

Philip R Holland (Newsletter Editor)

### Did You Know?

If you have a useful hint or tip, please send it to the Editor, and share it with the VIEWS membership.

### Avoiding the Perils of Pie Charts

3D pie charts always misrepresent the relative size of shares of the whole, as I showed in *VIEWS* News issue 29. That peril is avoided easily by use of 2D pie charts.

The other common peril for pie charts, which has nothing to do with inherently wrong choice of tool, is the overlap of pie chart labels. SAS/GRAPH can detect the problem, and the SAS log then contains a list of eight possible circumventions. One of them is not to do a pie chart, which I realized long ago, and have addressed, e.g. in *VIEWS* News issue 45. One option suggested is to use a legend. Unfortunately, the SAS/GRAPH legend only displays the slice name, which does not guarantee that the slice values and slice percentages are not vulnerable to label overlap. See my custom legend solution below (Case 2), as well as my way (Case 3) to further customize the legend, if that design suits your preference.

#### Case 1. Pie Chart Label Overlap Problem

**Descending Pie Chart with Slice Name, Value, & Percent**

Shoes Sales By Region

---

**United States**

$5,503,956

16.26%

**Western Europe**

$4,872,000

14.40%

**Canada**

$4,255,712

12.57%

**Asia**

$460,231

1.34%

**Middle East**

$5,631,779

16.64%

**Africa**

$2,342,508

6.82%

**Central America/Caribbean**

$3,657,753

10.81%

**South America**

$2,454,661

7.19%

**Eastern Europe**

$2,451,490

7.19%

---

Here the code to create the pie chart above:

```sas
GOPTIONS RESET = ALL;  
GOPTIONS DEVICE = PNG;  
GOPTIONS BORDER;  
GOPTIONS GSFNAME = anyname;  
GOPTIONS HTEXT = 3 PCT FTEXT = 'Verdana';  
GOPTIONS FTEXT = 'Verdana';  
GOPTIONS FTEXT = 'Verdana';  
TITLE1 HEIGHT = 5 PCT FONT = 'Georgia'  
COLOR = CX0000FF  
"Descending Pie Chart with Slice Name, Value, & Percent"  
TITLE2 HEIGHT = 5 PCT FONT = 'Georgia'  
"Shoes Sales By Region"  
FILENAME anyname "C:\PieChart1.PNG";  
PROC CHART DATA = sashelp.shoes;  
PIE region /  
SUMVAR = sales  
NOHEADING  
DESCENDING  
SLICE = OUTSIDE  
VALUE = OUTSIDE  
PERCENT = OUTSIDE  
RUN;  
QUIT;  
```
**Case 2. Custom Legend provides all information without overlap**

**NOTE:** When the graph is shrunk to fit the width of the newsletter column, the colour samples in the legend become very small. When the sample area becomes very small, it can be difficult to distinguish one colour from another. An easy way to increase the area of the colour samples is to increase the length of the bar by use of the SHAPE parameter in the LEGEND statement. In this example, change 4 PCT to, say, 8 PCT or larger. At full size of the graph, there is no problem with 4 PCT.

Here is the code used to create the pie chart above:

```sas
PROC SUMMARY NWAY DATA = sashelp.shoes;
  CLASS region;
  VAR sales;
  OUTPUT OUT = ShoeSalesByRegion SUM = Sales;
RUN;
PROC MEANS DATA = ShoeSalesByRegion
  NOPRINT SUM;
  VAR Sales;
  OUTPUT OUT = PieTotal SUM = TotalSales;
RUN;
/* concatenate Percent and Value with the original Slice Name */
DATA SliceNameWithPercentAndValue;
  LENGTH NameWithPercentAndValue $ 46;
  SET ShoeSalesByRegion;
  IF _N_ EQ 1 THEN SET PieTotal;
  Percent = (Sales / TotalSales) * 100;
  NameWithPercentAndValue = TRIM(LEFT(PUT(Percent, Z4.1))) || 
    '|' || TRIM(LEFT(Region)) || ' - ' || 
    TRIM(LEFT(PUT(Sales, DOLLAR10.))); 
RUN;
TITLE1 HEIGHT = 5 PCT FONT = 'Georgia' COLOR = CX000000 "Descending Pie Chart with Custom Legend";
TITLE2 HEIGHT=5 PCT FONT= 'Georgia' "Shoes Sales By Region";
FILENAME anyname "C:\PieChart2.PNG";
LEGEND1 LABEL = NONE SHAPE = BAR(4 PCT, 2 PCT);
```

If you want to order the legend entries from largest value to smallest value, and want to control slice area fill colour assignment, more pre-processing is required before the invocation of PROC GCHART, and macros must be used to dynamically create the PATTERN statements and the LEGEND statement. Also, for this ordering logic to succeed, the text in the legend entries must not exceed 32 characters. If this constraint is intolerable, see my solution in VIEWS News issue 45.

**Case 3. Taking control of legend entry order and colour use**

Here is the code used to create the pie chart above:

```sas
%MACRO PatternStatements;
  %DO i = 1 %TO 10;
    PATTERN&i. VALUE = PSOLID
    COLOR = &&SliceColor&i.
    REPEAT = 1
  %END;
%MEND  PatternStatements;
%MACRO LegendEntries;
  %DO i = 1 %TO 10;
    "&&LegendEntry&i."
  %END;
%MEND  LegendEntries;
DATA ColorList;
  /* Sequence colors from darkest to lightest, If you want small slices to stand out. */
  pctseq = 1; COLOR = 'CX000000'; OUTPUT;
  pctseq = 2; COLOR = 'CX666666'; OUTPUT;
  pctseq = 3; COLOR = 'CX0000FF'; OUTPUT;
  pctseq = 4; COLOR = 'CX9999FF'; OUTPUT;
  pctseq = 5; COLOR = 'CX99FF99'; OUTPUT;
  pctseq = 6; COLOR = 'CX00FF00'; OUTPUT;
  pctseq = 7; COLOR = 'CX99FF99'; OUTPUT;
  pctseq = 8; COLOR = 'CXFFFF00'; OUTPUT;
```

http://www.views-uk.org

http://www.sascommunity.org/wiki/VIEWS_News
/* concatenate Percent and Shorter Value with a Shortened Slice Name */
DATA SliceNameWithPercentAndValue;
LENGTH NameWithPercentAndValue $ 31;
SET ShoeSalesByRegion;
IF _N_ EQ 1 THEN SET PieTotal;
Percent = (Sales / TotalSales) * 100;
NameWithPercentAndValue = TRIM(LEFT(PUT(Percent,Z4.1))) || ' % ' || TRIM(LEFT(SUBSTR(region,1,15))) || ' - ' || TRIM(LEFT(PUT(Sales / 1E6, 5.3)));
RUN;
PROC SORT DATA = SliceNameWithPercentAndValue;
BY DESCENDING Percent Region;
/* Order slices from largest to smallest. */
RUN;
DATA ToSort;
SET SliceNameWithPercentAndValue;
pctseq = _N_; /* add a key to MERGE this data with the ColorList */
CALL SYMPUT('LegendEntry'||TRIM(LEFT(_N_)), TRIM(LEFT(NameWithPercentAndValue)));
RUN;
PROC SORT DATA = ToSort;
BY pctseq;
RUN;
DATA SliceWithColor (DROP = pctseq);
MERGE ToSort ColorList;
BY pctseq;
RUN;
PROC SORT DATA = SliceWithColor;
BY NameWithPercentAndValue;
/* because SAS/GRAPH will always apply your PATTERN statements in the sort order of the SLICE name text */
RUN;
DATA _NULL_; SET SliceWithColor;
CALL SYMPUT('SliceColor'||TRIM(LEFT(_N_)), TRIM(LEFT(color)));
RUN;
TITLE1 HEIGHT = 5 PCT FONT = 'Georgia'
"Shorten region names & values to order legend entries"
TITLE2 HEIGHT = 5 PCT FONT = 'Georgia'
"Shoes Sales By Region in Millions of Dollars"
LEGEND1 ORDER = (%LegendEntries) LABEL = NONE ACROSS = 1 SHAPE = BAR(4 PCT, 2 PCT);
%PatternStatements;
FILENAME anyname "C:\PieChart3.PNG";

LeRoy Bessler

Gini Coefficient

The Gini Coefficient is one of the common statistics used in data mining and modelling. However, there exists no in-built SAS procedures to construct this statistics, and it is not often reported by the procedures themselves. While Gini Coefficients are produced in SAS products such as SAS Enterprise Miner, it is not found in Base SAS and SAS/STAT. In this article, I will explain the concepts behind the Gini Coefficient and the methodology behind its calculation. At the end of the article, I will also introduce a simple macro to calculate the Gini Coefficient.

There are many statistical measures used by data miners and statistical modellers in their line of duty. Examples of these statistics include KS-Statistics, AIC, BIC, Mallow’s CP, Loss Matrix and Misclassification Matrix. Some modellers also make use of graphical measures such as ROC curves and Lorenz curves. However, one of the more popular statistics, the Gini coefficient, is not often included in SAS procedure results. In the following sections, we will go through the history of this statistics, the calculation method and its uses.

The Gini Coefficient was invented by the great Italian statistician Corrado Gini in 1912 and published in the paper “Variability and Mutability”. Ever since its introduction, it has been widely used in economics as the main measure of income inequality. Its usefulness in evaluating the spread of data for certain categories has led to its application in data mining and modelling. While it is gaining adoption steadily, it is still uncommon in most statistical modelling results and is rarely given to modellers by their statistical software.

The Gini Coefficient can be easily derived from two commonly used graphical methods, Lorenz curve and ROC curve. Let us look at the Lorenz curve in the diagram below. (Extracted from Wikipedia, 2009).
The Gini Coefficient (labelled Gini Index) is usually defined as the ratio of the areas on the diagram. Assuming the area between the line of perfect equality and Lorenz curve is A, and the area under the Lorenz curve to the axis is B, then the Gini Coefficient is computed as \( A/(A+B) \). As \( A+B = 0.5 \), the Gini Coefficient, \( G = A/(0.5) = 2A = 1-2B \). To measure the area under the Lorenz curve, the trapezoid rule is used. Below is an example diagram of trapezoid rule and the formula for calculation of area (Extracted from Wikipedia, 2009).

\[
\int_a^b f(x) \, dx \approx (b-a) \frac{f(a) + f(b)}{2}
\]

Assuming that we are only computing for a small increment in the x-axis, the above rule will hold and allow us to use a numerical method to estimate the area under the curve. This approach lays the foundation for the Gini Coefficient macro given in the appendix of this paper. A detailed programming walk-through will not be done for the macro.

The Gini Coefficient is one of the few statistics that is not available in many base SAS procedures. However, a simple macro will allow us to compute this simple and beautiful statistic:

---

```
/**********************************/
GINI COEFFICIENT MACRO

GINI COEFFICIENT IS ONE OF THE MANY STATISTICS THAT IS BEING USED TO MEASURE THE EFFECTIVENESS OF THE MODEL. IN THIS SIMPLE MACRO, THE GINI COEFFICIENT FOR A SCORED DATASET IS CALCULATED.

INPUT DESCRIPTION
------------
input Input data set
yvar Prediction or dependent variable
xvar Score or independent variable

/**********************************/
MAIN MACRO

%MACRO gini(input=, xvar=, yvar=);
```

---

**DATA REDUCTION PROCESS**
---

IN THIS PARTICULAR STEP, THE TOTAL AMOUNT OF DATA IS REDUCED TO JUST THE TWO VARIABLES WHICH ARE NEEDED IN THE CALCULATION OF THE GINI COEFFICIENT. THIS STEP ALSO HELPS TO REDUCE THE AMOUNT OF PROCESSING TIME SUBSEQUENT TO THIS STEP. A FILTER STATEMENT REMOVES ALL THE INDETERMINATES OR NON-0,1 OBSERVATIONS.

```
DATA temp;
  SET &input. (WHERE = (&yvar. IN (0,1))
    KEEP = &yvar. &xvar.);
RUN;
```

**SUMMARIZATION PROCESS**
---

IN THIS PARTICULAR STEP, THE VARIABLES ARE SUMMARIZED FOR GINI CALCULATIONS. THE DATA ARE FIRST SUMMARIZED BY THE X VARIABLE AND THEN THE OVERALL COUNTS AND SUMS ARE CALCULATED.

```
PROC SQL;
  CREATE TABLE summary_table AS
    SELECT &xvar.
      ,SUM(&yvar.) AS bad
      ,COUNT(&yvar.) AS total
    FROM   temp
    GROUP BY &xvar.
    ;

  SELECT SUM(&yvar) AS bad
    ,COUNT(&yvar.) AS total
  INTO   :totalbad
          ,:total
  FROM   temp
  ;
QUIT;
```

**SUMMARIZATION PROCESS**
---

IN THIS STEP, THE CUMULATIVE PERCENTAGES ARE CALCULATED AND GINI VALUES ARE THEN DERIVED FROM THESE CALCULATION. THE GINI VALUES ARE EVALUATED USING THE CLASSIC TRAPEZOID RULE WHICH IS A NUMERICAL INTEGRATION METHOD. THE APPROACH IS SIMILAR TO MANY CURRENT SOFTWARE’S APPROACH.

```
DATA summary_table;
  SET summary_table;

  RETAIN cumbad 0;
  RETAIN cumtotal 0;
  /*------------------------------*/

  cumbad = bad + cumbad;
  cumtotal = total + cumtotal;
  /*------------------------------*/

  cumbadpct = cumbad / &totalbad.;
  cumtotalpct = cumtotal / &total.;
```

---

CALCULATION OF GINI BASICS
*********************************/

diff = cumtotalpct - LAG(cumtotalpct);
ydiff = cumbadpct + LAG(cumbadpct);
gini = 0.5 * (xdiff * ydiff);
RUN;

***********************************/
PRINTING OF GINI COEFFICIENT

THIS STEP EVALUATES THE FINAL GINI VALUE.
**********************************************/

PROC SQL;
SELECT (2 * SUM(gini) - 1) AS gini
FROM   summary_table
;  
QUIT;

%gini(input=scorecard
,xvar=score
,yvar=yesno
);

CANDLE STICK PLOTS

From the chart, we can see distinct number of blue and white bars as well as the overall trend. A quick glance at the chart indicates a fluctuating trend. At the same time, one can easily conclude that there are roughly equal numbers of positive and negative bar. We will go into the details of the various kinds of bars in the chart that will help us with stock trading. First, let us understand the anatomy of the bars.

Any candlestick will have several key elements in them. The most important elements are High, Low, Close and Open. As shown in the chart below, the bar consists of four main pieces of information, namely the high, open, close and low. Below is an example of how the bars were constructed. If the close is higher than the open, the box will be empty and vice versa.

Due to the large number of possible combinations of the information, there are many different types of bar create in which some have importance in that they are signals for subsequent behaviour. In this subsequent section, we will explain one of the most important combinations in the candlestick chart analysis: the hammer and the hanging man.

The hammer, or hanging man, is a simple name that suggests a particular type of candlestick bar which has the following characteristics.

• The (thick) real body is at the upper end of the recent price range, whether it is solid or hollow is unimportant.
• A long, lower shadow (thin line) should be twice the height of the real body.
• It should have no upper shadow or a very short one.

This particular type of bar with an extremely long shadow indicates a major reversal and the effects is even more profound when the shadow is extremely long. Typically when this type of bar is found, it hails the beginning of the reversal of trends regardless of its colour. From the following graphs, we can observe that the trend does hold true.
From the chart above, we can observe that the first hammer has resulted in a downward trend and using the same logic, we can also observe that the second hammer heralds the beginning of the rising trend.

From the chart above, we can also observe that the 2 hammers started the upward and downward trend in this case. Again, the hammer has been seen to be a useful indicator for detecting major reversal of trends.

There are many different types of bars as shown in the diagram above that have many different meanings and it is beyond the scope of this article. Interested readers should refer to more specialized books which contain more interesting guidelines than the one above.

FUNCTION = 'DRAW';
XSYS = '2'; YSYS = '2';
X = date; Y = low;
OUTPUT;
END;
/* DRAW HIGH TO OPEN AND LOW TO CLOSE */
IF close LE open THEN DO;
FUNCTION = 'MOVE';
XSYS = '2'; YSYS = '2';
X = date; Y = open;
OUTPUT;
FUNCTION = 'DRAW';
XSYS = '2'; YSYS = '2';
X = date; Y = high;
OUTPUT;
FUNCTION = 'MOVE';
XSYS = '2'; YSYS = '2';
X = date; Y = close;
OUTPUT;
FUNCTION = 'DRAW';
XSYS = '2'; YSYS = '2';
X = date; Y = low;
OUTPUT;
END;
RUN;
/*****************************/
SYMBOL1 I = NONE V = NONE R = 2;
AXIS1 MINOR = NONE OFFSET = (5, 5) PCT;
AXIS2 LABEL = ('PRICE') MINOR = NONE;
TITLE1 'CANDLE STICK PLOTS';
GOPTIONS DEVICE = JPEG;
/* PROC GPLOT IS USED AS A 'HOLDING' AREA FOR
THE ANNOTATE, PLUS, GPLOT GENERATES THE AXES.
OVERLAY PLOT REQUIRED SO THAT THE VERTICAL AXIS
HAS THE COMPLETE RANGE OF THE DATA,
I.E. HIGH TO LOW. */
PROC GPLOT DATA = test;
PLOT (high low) * date /
OVERLAY HAXIS = AXIS1 VAXIS = AXIS2
ANNO = candles
GOPTIONS DEVICE = JPEG;
RUN;
QUIT;
/*****************************/
%MEND;
/*****************************/
candle(input=market
, noofdays=30)
SAS provides users with a simple and effective way of analysing the financial markets with the help of candlestick chart.

Murphy Choy, University College Dublin

Friday Quiz from Amadeus Software

The Friday Quiz originated from the Technical staff at Amadeus Software. Most Friday's we would share a recent problem that was encountered (and solved) to see what approaches each other would use. The enthusiasm for thrashing around programming ideas was such that we were encouraged to share the Friday Quiz with the general public.

Each quarter we will publish a new challenge for SAS Programmers to solve. Quizzes vary in style, but are designed not to require more than a few minutes thought. We encourage readers to share their solutions (anonymous or credited) and we will publish a selection at the end of each quarter.

We hope our quizzes serve as a pleasant distraction; but mostly we hope you learn new skills and techniques by sharing each other's code.

Birthday Promotion

Consider yourself a SAS Programmer who works in a team that execute marketing campaigns with SAS. You wish to create a personalised message to your recipients if their birthday falls within active campaign dates.

Here is a program that generates two SAS tables:

• CAMPAIGNS (three fictitious campaigns)
• POPULATION (50 fictitious customers and dates of birth).

DATA campaigns;
LENGTH cid 8 name $30;
INPUT cid name $ 3-16
campaign_start DATE9.
campaign_end: DATE9.;
FORMAT campaign_: DATE9.;
DATALINES;
1 New Holidays 01JAN2009 31MAR2009
2 January Sales 26DEC2008 31JAN2009
3 New Product 01FEB2009 24APR2009
RUN;
DATA population (KEEP=customer_uid
date_of_birth );
ATTRIB customer_uid LENGTH=8
LABEL="Unique Customer ID" FORMAT=Z6.
date_of_birth LENGTH=8
LABEL="Date of Birth" FORMAT=DATE9.;
DO customer_uid = 1 TO 50;
    dd = INTNX('DAY', '31DEC2008'D,
        FLOOR((RANUNI(256) * 365) + 1));
    year = FLOOR((RANUNI(512) * 70) + 1921);
    date_of_birth = MDY(MONTH(dd), DAY(dd),
            year);
    OUTPUT;
END;
RUN;

DATA campaigns;
   LENGTH cid name $30
   INPUT cid name $ 3-16
   campaign_start DATE9.
campaign_end DATE9.;
   FORMAT campaign_: DATE9.;
   DATALINES;
1 New Holidays 01JAN2009 31MAR2009
2 January Sales 26DEC2008 31JAN2009
3 New Product 01FEB2009 24APR2009
RUN;
DATA population (KEEP=customer_uid
date_of_birth );
   ATTRIB customer_uid LENGTH=8
       LABEL="Unique Customer ID" FORMAT=Z6.
date_of_birth LENGTH=8
       LABEL="Date of Birth" FORMAT=DATE9.;
   DO customer_uid = 1 TO 50;
      dd = INTNX('DAY', '31DEC2008'D,
            FLOOR((RANUNI(256) * 365) + 1));
      year = FLOOR((RANUNI(512) * 70) + 1921);
      date_of_birth = MDY(MONTH(dd), DAY(dd),
            year);
      OUTPUT;
END;
RUN;

Write a SAS program that:

• Merges the two tables creating one row for each member of the population, for each campaign.
• Creates a flag indicating whether the customers birthday (not date of birth!) falls between the campaign start and end dates.

Solutions can be obtained after 31 October 2010 by request from fq@amadeus.co.uk, or by visiting the Friday Quiz web page www.amadeus.co.uk/fq.

David Shannon, Amadeus Software
Formats, Options, and Functions

This section is devoted to the description of useful, or unusual, SAS Formats, Options, and Functions.

The FINFO() function returns information about an external file reference, e.g. last modified date, size and access permissions. This platform-dependent function originated in SCL and requires the data from a number of other SCL functions: FOPEN(), FOPTNUM() and FOPTNAME(). Sample code can be found in the SAS online documentation at is.gd/gmb3Q.

[SAS 9] The COMPRESS= data set option specifies how observations are compressed in a new output SAS data set. Accepted option values are NO, YES (or CHAR) and BINARY.

[SAS 9.2] The VMSZnw.d informat reads, and the format of the same name writes, VMS and MicroFocus COBOL zoned numeric data.

News

Amadeus on iTunes

Amadeus are delighted to announce a new series of free tutorial podcasts; you can subscribe to them via iTunes or, alternatively, view them on the Amadeus web site: www.amadeus.co.uk/podcasts

The first 4 titles are:
- Using the Macro IN Operator.
- Using PROC SCAPROC to Analyse the Inputs and Outputs of SAS Programs.
- Controlling SAS System Options with GETOPTION.
- Improving Performance with the SASFILE Statement.

Podcasts are free to view and will vary in length, starting with short 5-minute tips through to longer episodes covering a diversity of topics and potentially as part of a longer series of tips.

Also events to highlight:
- Webinar: Using SAS to Create Microsoft Excel Reports - 5th November.
- Webinar: Descriptive Statistics with Base SAS - 3rd December.

Amadeus Consultancy Team

PhUSE News

Single Day Events

These are one of the main benefits of membership and the board of directors are keen to ensure that the whole membership benefits as much as possible. This September we held our first SDE outside Europe with a very exciting SDE in Boston, where Matt Soukup from the FDA was presenting.

We are looking at holding other non-EU SDEs in India, China and Japan and are planning for the 2011 events.

Industry Standards

Ben Szilagyi has been leading the PhUSE initiative to create, document and share programming standards and open source code. This work is very much in its infancy and the detailed planning at this early stage will help the project deliver over the coming years.

e-learning

Leo Valmas has been leading the charge to get e-learning up and running for the membership. The first modules will be live very shortly, but Leo and his team are looking for more material. Please contact Leo at leo.valmas@phuse.eu if you would like to be involved.

Pharmaceutical Programming Journal

Dirk Spruck, the Editor of the journal is doing a sterling job in driving this project forward, but needs additional quality material. If you would like to discuss a future article, please contact Dirk via email at dirk.spruck@phuse.eu.

Vacant PhUSE Director Position

At last year’s AGM we documented a process for filling the PhUSE Director Positions. We have had an open position (Regional Director, Germany) and unfortunately, following the process has resulted in no nominations. If you would like to find out more about this exciting position, please contact Stephen Bamford at stephen.bamford@phuse.eu.

2011 Planning

An advanced team has already started preparations for PhUSE 2011. Next year the conference will be held in the UK in Brighton from 9-12 October, there will be SDEs in London, Basel, Copenhagen, Frankfurt and Brussels, provisionally in Philadelphia, San Francisco and Boston too. There will be more information during the next few months at www.phuse.eu.

Finally we should occasionally look behind us to see the journey that we have travelled. Since the first conference there have now been over 500 quality presentations and PhUSE bridges a knowledge gap that was present in the industry.

If you have any comments or thoughts about PhUSE, or if you would like to be more involved, please contact me via e-mail at stephen.bamford@phuse.eu.

In Brief

- Back issues of VIEWS News are available from the VIEWS web site, and also from the VIEWS News page at www.sasCommunity.org/wiki/VIEWS_News
- Andrew Ratcliffe’s excellent email newsletter “NOTE:” has been converted into a blog at notecolon.info.
- More SAS hints and tips can be found on the SAS FAQ pages www.hollandnumerics.com/sasfaq and also on the Amadeus Software Tips pages at www.amadeus.co.uk/tips.
There is a social networking group for SAS users on Ning called SAS Professionals, originally intended for SAS users in the UK, at www.sasprofessionals.net, but currently totalling more than 3,400 members worldwide.

Phil Holland has started a group page on Squidoo for other pages related to SAS, and would like to make it a central resource for SAS hints, tips, links and books at www.squidoo.com/groups/SAS_users

Phil Holland has also created the SAS Contractors group on LinkedIn specifically for independent SAS consultants working in the UK and Europe. Requests to join the group should be made at: www.linkedin.com/groups?gid=2481512 and the associated SAS Contractor Resources page, which is open to all, can be found at: www.squidoo.com/sas_contractors

SAS users who use Twitter can now join a “twibe” at twibes.com/SAS, which filters your tweets down to those containing “SAS”, “EnterpriseGuide” or “PROC”.

**Diary**

Are you organising an event that would be of interest to the VIEWS readership? Let us know as we are interested in all non-profit making events related to SAS.

**November 2010**

5 Using SAS to Create Microsoft Excel Reports, webinar
   See the Amadeus Software web site www.amadeus.co.uk/webinars.aspx for further details.

25 SAS Programming Tips and Tricks for Base SAS, webinar
   See the Amadeus Software web site www.amadeus.co.uk/webinars.aspx for further details.

**December 2010**

3 Descriptive Statistics with Base SAS, webinar
   See the Amadeus Software web site www.amadeus.co.uk/webinars.aspx for further details.

**March/April 2011**

tba PhUSE Single Day Event, Basel, Switzerland
   See the PhUSE web site www.phuse.eu for further details.

tba PhUSE Single Day Event, Brussels, Belgium
   See the PhUSE web site www.phuse.eu for further details.

tba PhUSE Single Day Event, Copenhagen, Denmark
   See the PhUSE web site www.phuse.eu for further details.

tba PhUSE Single Day Event, Frankfurt, Germany
   See the PhUSE web site www.phuse.eu for further details.

**April 2011**

4-7 SAS Global Forum, Las Vegas, NV, USA
   The SAS Global Forum (SGF, formerly called SUGI) is held each year and focuses on the technical aspects of SAS software. See www.sasglobalforum.org for more details.

**May 2011**

tba PhUSE Single Day Event, London
   See the PhUSE web site www.phuse.eu for further details.

**October 2011**

9-12 PhUSE Conference, Brighton
   The Pharmaceutical Users Software Exchange (PhUSE) conference is the premier programming event for the pharmaceutical industry in Europe. See www.phuse.eu for more details.

All VIEWS event information will be posted and/or emailed to registered members of VIEWS, and will include an event application form. Please send your queries about any VIEWS events to event@views-uk.org, and don’t forget to look at the web site for the latest news.

**Contacts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Affiliation</th>
<th>Email</th>
<th>Web Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>LeRoy Bessler</td>
<td></td>
<td><a href="mailto:le_roy_bessler@wi.rr.com">le_roy_bessler@wi.rr.com</a></td>
<td></td>
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