

Pre-Conference Training Sessions

All sessions will be held at the Omni Hotel on Sunday, November 8, 2009. Room locations will be posted in the hotel meeting room area.

Sunday, Nov 8	Session Description
8:30 - 11:30 a.m.	<p>Data Cleaning Workshop - Ron Cody This talk discusses ways to look for data errors using both DATA step programming and Base SAS procedures. Functions such as VERIFY and several of the new SAS 9 character functions make SAS especially well suited to this task. Most of the material for this workshop is based on the two-day course, Data Cleaning Techniques, offered by SAS Institute.</p>
8:00 - 12:00 a.m.	<p>PROC SQL Programming: The Basics and Beyond - Kirk Lafler This course expands your PROC SQL programming skills using numerous examples and techniques of this powerful database language. Topics include strategies for creating and using virtual tables known as views, using case expressions to perform conditional logic and reclassification of data values, complex queries using inner and outer join constructs including set operators, database design concepts including basic normalization rules, examples of implementing table integrity constraints, accessing information contained in read-only dictionary tables, interfacing PROC SQL with the Macro facility to create macro variables and macro variable lists, rules associated with index creation and usage, undocumented and hard-to-find PROC SQL (and non-PROC SQL) features for debugging purposes, and PROC SQL (and non-PROC SQL) performance tuning strategies including techniques for limiting the amount of data transferred between the native data base (e.g., Oracle, DB2, MySQL, MS-Server, etc.) and SAS.</p>
1:00 - 4:00 p.m.	<p>Output Delivery System: The Basics and Beyond - Kirk Lafler This course explores the various techniques associated with output formatting and delivery using the Output Delivery System (ODS). Numerous examples will be presented to command mastery of ODS capabilities while providing a better understanding of ODS statements and options to deliver output anyway that is needed. Topics include SAS- supplied Formatting statements and options; Formatting Output as RTF, PDF, MS-Excel®, and HTML; Selecting output objects with Selection or Exclusion Lists; using the Escape character to enhance output formats; exploring ODS statements and options; constructing drill-down applications with the DATA step, ODS, and SAS/GRAPH software; creating thumbnail charts; techniques on creating user-defined ODS styles; and an introduction to the customization of output with the TEMPLATE Procedure.</p>
1:00 - 4:00 p.m.	<p>Macros - The Basics - Art Carpenter This half-day seminar is designed for the SAS programmer who is new to the Macro Language. We will start at the basics and cover the fundamentals necessary to start applying SAS macros in your programs. By the end of the day you will understand how the Macro Language works, what the Macro Symbol Table is and how to values stored in it, how the SAS System uses Macro Variables, key Macro Language concepts, important SAS Macro Language statements, and how to invoke Macros in your programs. The examples shown in the course materials demonstrate the power and flexibility of this part of the SAS System and will enable you to apply its functionalities to your own programs right away.</p>

Pre-Conference Training Instructors



Ron Cody, Ed.D., is a retired professor from the Robert Wood Johnson Medical School who now works as a private consultant and a national instructor for SAS Institute Inc. A SAS user since 1977, Ron's extensive knowledge and innovative style have made him a popular presenter at local, regional, and national SAS conferences. He has authored or co-authored numerous books, such as *Learning SAS by Example: A Programmer's Guide*; *SAS Programming by Example*; *Applied Statistics and the SAS Programming Language, Fifth Edition*; *The SAS Workbook*; *The SAS Workbook Solutions*; *Cody's Data Cleaning Techniques Using SAS Software*; *Longitudinal Data and SAS: A Programmer's Guide*; and *SAS Functions by Example*, as well as countless articles in medical and scientific journals.



Art Carpenter, an independent consultant and statistician, has been a SAS user since 1976. His impressive list of publications includes *Carpenter's Complete Guide to the SAS REPORT Procedure*; *Carpenter's Complete Guide to the SAS Macro Language, Second Edition*; *Annotate: Simply the Basics*; his co-authored *Quick Results with SAS/GRAPH Software*; and two chapters in *Reporting from the Field*. He also has served as the general editor of Art Carpenter's SAS Software Series. A SAS Certified Professional, Art has presented over six dozen papers, posters, and workshops at SAS Global Forum, SAS Users Group International (SUGI) conferences, and various SAS regional conferences. Art has received several best-contributed-paper awards. He has served in various leadership roles for local, regional, national, and international users groups, including conference chair and executive board member of SAS Global Forum.



Kirk Paul Lafler, consultant and founder of Software Intelligence Corporation, has been a SAS user since 1979. Kirk received his Bachelor of Science and Master of Science degrees from the University of Miami. As a SAS Certified Professional, Kirk provides IT consulting services and training to SAS users around the world. He is the author of several other books, including *Power AOL* and *Power SAS*, and more than 100 peer-reviewed technical articles. Kirk also writes the popular SAS tips column, "Kirk's Korner," that appears regularly in several SAS Users Group newsletters. He is a frequent speaker at SAS Users Group meetings.