NorthEast SAS® Users Group, Inc.

Sixteenth Annual Conference Proceedings

Conference Co-Chairs

Ralph W. Leighton
The Hartford

Lawrence W. Altmayer
Bureau of Census
NorthEast SAS® Users Group, Inc.

Sixteenth Annual Conference
Proceedings

The NorthEast SAS® Users Group (NESUG) publishes these proceedings as a record of the NESUG 2003 conference.

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<table>
<thead>
<tr>
<th>Conference Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference Leadership Team</td>
<td>4</td>
</tr>
<tr>
<td>About The NorthEast SAS Users Group, Inc</td>
<td>5</td>
</tr>
<tr>
<td>Forward to These Proceedings</td>
<td>6</td>
</tr>
<tr>
<td>Conference Sections, Descriptions, and Papers</td>
<td>10</td>
</tr>
<tr>
<td>Advanced Tutorials</td>
<td>11</td>
</tr>
<tr>
<td>Application Development</td>
<td>12</td>
</tr>
<tr>
<td>Beginning Tutorials</td>
<td>13</td>
</tr>
<tr>
<td>Coders Corner</td>
<td>14</td>
</tr>
<tr>
<td>Emerging Technologies</td>
<td>15</td>
</tr>
<tr>
<td>Government Applications</td>
<td>16</td>
</tr>
<tr>
<td>Graphics &amp; Information Visualization</td>
<td>17</td>
</tr>
<tr>
<td>Hands On Workshops</td>
<td>18</td>
</tr>
<tr>
<td>Internet/Intranet, the Web &amp; SAS</td>
<td>19</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>20</td>
</tr>
<tr>
<td>Posters</td>
<td>21</td>
</tr>
<tr>
<td>Statistics, Data Analysis &amp; Econometrics</td>
<td>23</td>
</tr>
</tbody>
</table>
CONFERENCE LEADERS
OUR NESUG 2003 TEAM

Advanced Tutorials
Rob Russell, The Hartford
Christianna Williams, University of North Carolina

Applications Development
Michael G Sadof, MGS Associates, Inc.
James Shields, L.L. Bean

Beginning Tutorials
Michael Davis, Bassett Consulting Services, Inc.
Paul Gorrell, Social & Scientific Systems, Inc.

Coders’ Corner
Charles DePascale, Center for Assessment
Louise Hadden, Abt Associates, Inc.

Emerging Technologies
Daryl Hoffman, Penn State University
Donald Trevoy, Spring City Software, Inc.

Government Applications
David D Chapman, U.S. Census Bureau
Frank Senk, FMDE Solutions Inc.

Graphics & Information Visualization
Dianne Louise Rhodes, Westat
Jeanne Spicer, Penn State University

Hands-On Workshops
John Cohen, AstraZeneca Pharmaceuticals
Robert Schechter, AstraZeneca Pharmaceuticals

Internet/Intranet, the Web & SAS
Lois Levin, Independent Consultant
James Wu, Merck & Co., Inc.

Pharmaceuticals
Lisa Eckler, Lisa Eckler Consulting Inc.
Shi-Tao Yeh, GlaxoSmithKline

Posters
Adriane Lowrie, Office of Personnel Management
Perry Watts, Independent Consultant

Statistics, Data Analysis & Econometrics
Gary McQuown, Data and Analytical Solutions, Inc.
Rick Mitchell, Westat

Sunday Workshops
Elizabeth Axelrod, Abt Associates, Inc.
Victor Pontes, Channing Lab

Code Clinic
Howard Schreier, U.S. Dept. of Commerce
Mike Zdeb, U@Albany School of Public Health

SAS Futures Forum
Craig Dickstein, Intelliciesions Data Inc.

SAS Bowl
Ron Cody, RW Johnson Medical School
Marge Scerbo, CHPDM/UMBC

NESUG Problem Solving Contest
Rick Aster, Consultant

Registration
Michael Mace, The Goodyear Tire and Rubber Co.
Earl Westerlund, UR Clinical Trials Coordination Center

And These Nice Folks also Helped to Make the Conference Possible

Hotel Coordination and A-V Support
Warren Stinson, D&B
Ray Pass, Ray Pass Consulting
Frank Fry, Federal Reserve Board

CD Production
Mike Zdeb, U@Albany School of Public Health

Corporate Sponsorship Coordinator
Daphne Ewing, Synteract, Inc.

Presenter Coordination
Sue Douglass, Consultant
Earl Westerlund, UR Clinical Trials Coordination Center
Ralph Leighton, The Hartford

Pre-Conference Training Coordinator
Frank Fry, Federal Reserve Board

Advertising
Erik Larsen, Independent Consultant

Web Master
Michael Mace, The Goodyear Tire and Rubber Co.

Conference Website
Ralph Leighton, The Hartford
Sue Douglass, Consultant
Earl Westerlund, UR Clinical Trials Coordination Center

Publications:
Ralph Leighton, The Hartford
Sue Douglass, Consultant
Earl Westerlund, UR Clinical Trials Coordination Center
Larry Altmayer, Census Bureau

Graphic Artist
Kimberly Riddell, SAS Institute

SAS Liaison
Michael Smith, SAS Institute
ABOUT THE NORTHEAST SAS USERS GROUP, INC.

The NorthEast SAS Users Group (NESUG) is the oldest regional SAS users group, serving the northeast part of the country, from Maine to Washington, DC, and west throughout Pennsylvania. The main purpose of NESUG is educational: to promote the sharing of SAS-related information among members of the SAS community. NESUG meets this goal by conducting annual NESUG conferences, through programs such as Speaker Sharing, and by acting as an advocate for SAS users to both SAS Institute and SUGI. NESUG Conferences are usually held in the fall with the call for papers being held in the spring.

NESUG is managed by an Executive Committee. This group consists of past, present, and future NESUG Conference Chairs who remain active in the management of the organization. The current membership of this body is below. Feel free to contact any one of us at any time during the year.

NESUG Executive Committee Membership

Larry Altmayer, US Census Bureau
Sue Douglass, USDA/U of MD
Daphne Ewing, Synteract, Inc.
Frank Fry, Federal Reserve Board
Erik Larsen, Independent Consultant

Ralph Leighton, The Hartford Financial Services Group
Michael Mace, The Goodyear Tire & Rubber Co.
Ray Pass, Ray Pass Consulting
Earl Esterlund, UR Clinical Trials Coordinat’n Center
Warren Stinson, D & B

Alexa Parliyan, Pfizer, Inc.

NESUG is a totally voluntary organization, from the Conference Chairs down to the Session Coordinators. So we take this moment to acknowledge and to thank each of the individuals listed on the previous pages, as well as all the authors, presenters, session coordinators and registration volunteers, for their efforts in making this year’s conference a worthwhile success for all of the attendees.

If you would like to become more involved with NESUG, why not fill out a volunteer form while you are at the conference? As an all-volunteer organization, NESUG depends interested people just like you for its continuing success. So please consider helping out another year as a Session Coordinator or Registration Volunteer or Presenter. If you would like to present a paper, we invite you to submit a proposal (an abstract) during our Call for Papers in the spring. Never done a presentation before? NESUG is always interested in new presenters. And our section chairs are ready and willing to help you.

OUR HOST CITY:
These proceedings are the official record of the 16th Annual NorthEast® SAS Users Group Conference, which was held September 29 – October 2, 2002 at the Crystal Gateway Marriott Hotel in Washington, D.C. This was a return visit of NESUG to this location, the 1995 conference having been located in this hotel. The 1999 Conference was also held in D.C., but in a different hotel.
A FOREWORD TO THESE PROCEEDINGS

Washington, D.C. – our nation’s capital – is a tourist Mecca, and the location of the hotel served conference visitors well. Located above the Crystal City Subway stop on the Yellow and Blue Metro lines, the hotel is only three or four stops from key attractions on the Washington Mall (Smithsonian Museums), three stops from Arlington National Cemetery, and three stops from convenient access to Old Town Alexandria. It is hoped that all had a chance to enjoy this wonderful metropolitan area as well as to enjoy the conference.

CONFERENCE HIGHLIGHTS:

NESUG 2003 continued the expanded two and one-half day format begun 2001 in Baltimore and repeated last year in Buffalo. This expanded format has proven popular, and it has enabled NESUG 2003 to provide additional value to our attendees: through expanded paper offerings; through making available more time for the NESUG Demo and Exhibit Room and Code Clinic; and by giving our attendees more time to network with old friends and other SAS users.

Our keynote speaker this year was Paul Kent the Senior Research and Development Director for Base SAS Research at SAS. As advertised, he is a wonderful speaker and gave us a great opening session.

The successful Sunday Workshops provided quality, inexpensive instruction in several diverse topics. We want to take this moment to thank the workshop instructors -- Mike Zdeb, Jack Shoemaker, Frederick Pratter, Chris Yindra, Ian Whitlock and Russ Lavery -- for taking the time to participate in NESUG 2003. Our thanks also goes to Elizabeth Axelrod and Victory Pontes for running this section.

The conference provided opportunities were for attendees to network in less formal settings. For those who arrived early, we provided a four hour guided Graylines bus tour. This took those partaking of it to the key sights in D.C., including brief stopovers at the monuments, and finally a visit to Arlington National Cemetery. The ever-popular SAS Bowl returned yet again to entertain and amuse with SAS truth and trivia with game masters, Ron Cody and Marge Scerbo. Rick Aster again conducted the SAS Problem-Solving Contest this year, by preparing a set of brainteasers to test our SAS programming knowledge. And Tuesday evening we celebrated and relaxed with entertainment by the Bittersweet band.

The core of the Conference is always the paper sections, and these are listed separately in the table of contents, with more details of the papers following later on in this set of notes. Of key interest this year were the Internet and Emerging Technology sections which continue to cover key areas of interest of many of our SAS users. One NESUG policy was changed this year: the conference offered the Hands-on Workshops free to all, taking advantage of an offer by the SAS Institute to provide the laptops used in the sessions. A special thanks goes to Bob Schechter and John Cohen for organizing and running this challenging and complicated section.
A FOREWORD TO THESE PROCEEDINGS

OUR NESUG TEAM AND OTHER VOLUNTEERS

The Conference Section Chairs – who provide most of the persons listed under NESUG Team -- did a wonderful job of putting the NESUG 2003 Conference Program together. Two thirds of a year of planning and many, many hours of effort were spent soliciting and reviewing abstracts, selecting papers, collecting information, developing speaker schedules, working with presenters, gathering final papers, and, at the conference, leading the sections. This was a very difficult year to put together a full schedule, the two impediments being a continuing slow economy and the very early timing of the conference, the earliest yet for any NESUG. Our Section Chairs rose to this challenge, and we are extremely appreciative of the time and effort they put into making NESUG 2003 the success it is. This was a marvelous crew to work with.

There are two other categories of volunteers that deserve special mention: the Session Coordinators and the Registration Desk Volunteers. They keep the conference moving and make it work for all. The Session Coordinators assist the Section Chairs by assuring that the audio-visual equipment is operating, keeping the speakers on schedule during their presentations, introducing the speakers, operating the lights, and otherwise facilitating the smooth operation of the sections. The Registration Desk Staff helped incoming attendees receive their conference materials. They were all part of an organized effort to provide a quick process for our attendees as they registered and a friendly place to come back to when attendees needed conference information. We thank you all.

The Code Clinicians, under the leadership of Mike Zdeb and Howard Schrier, shared their expertise with those who brought them a problem data set, an odd error or simply a question about how to address a problem. They helped diagnose the problem and prescribe the proper treatment. We thank them as well.

Finally there would be no program without the paper presentations, and we thank each and every one of our NESUG 2003 authors for the time and the effort that they put forth to produce and present over 140 papers. These Proceedings reflect the expertise, dedication, professionalism and work that went into each paper.

BEHIND THE SCENES:

The NESUG Executive Committee consists of past, present, and future Conference Co-Chairs, and before and at the conference operates behind the scenes to provide attendees with the best quality and most comprehensive conference possible. Below the “Leadership Team” (two pages back) is a listing of various areas of support and who primarily participated in the area. This year’s conference was carried out in a manner somewhat different than in years past, with a high degree of sharing of the work load and the creation of small groups to target or expedite certain activities, such as the construction of the conference website (set up during January 2003) or the management of the section chairs, what we referred to as the “Gateway” committee.

The NESUG website working group (Sue Douglass, Ralph Leighton and Earl Westerlund) took advantage of a website “play-yard” concept invented by our webmaster Michael Mace, in the Lotus Notes environment. With very little knowledge of HTML and only Client Notes licenses, this group built the website that you have seen and used this year, apart from the heavy-hitting functions like the registration form and the abstract processing form. These last, along with the recent innovation of a Section Chairs Sand-Box for document exchange, have been creations of the
A FOREWORD TO THESE PROCEEDINGS

webmaster. Our hats off to Michael Mace and a tip of the hat to those who built and maintained the website.

The “Gateway” group (Sue, Earl and Ralph again) seems to have worked out especially well. It gave the section chairs a well-defined place to go for advice and assistance, as well as providing a sharing of the burden of managing the development of the Conference Program. On several occasions conference calls were used to talk over problems in one section or another. We also thank Hsiwei Yu who participated in the group in its early phases.

Hotel matters – from contract negotiations to catering and AV-support – is a highly complex, intensive and sensitive matter. Although no year is particularly easy, this year was especially difficult, with the economy being what it is. Warren Stinson took the lead as the central figure, ably aided by Ray Pass and Frank Fry, both of whom were heavily involved in the complex task of making the audio visual arrangements. A tribute to all of these people is in order.

Registration was again handled over the website, and Earl Westerlund and Michael Mace did an excellent job of organizing and keeping up with the process. The scope of this activity consisted, not only of processing the registrations as they came in, but also (at the conference) arranging the set-up used to give the attendees their materials, as well as handling onsite registrations. Included in this latter phase is the organization of large numbers of volunteers to make the process move at the conference.

Finally we need to mention Corporate Sponsorship and the fine work Daphne Ewing did in bringing aboard our sponsors and advertisers. These provide additional revenue and assistance and our thanks to both Daphne and also to the organizations that contributed in this manner.

Behind the scenes help is not limited to just the membership of the Executive committee. Our CD Coordinator, Mike Zdeb did an admirable job once again with the complex task of assembling the materials for the proceedings that you are now reading and hopefully will serve you well as a reference in the coming year. Flo Fry assisted Sue Douglass in organizing the Book Drive for young children this year, as drive that was successful like the one last year in Buffalo. Our team members were always helpful with suggestions and ideas, but we want to thank especially Michael Davis for the advice and counsel that he provided to us.

In sum, Larry and I thank all of these people for the incredible amount of hard work they performed this year. From the initial survey of a possible conference site, thru the setting up of teams and websites, arranging for bus trips and bands, setting up the catering arrangements for breaks and for special occasions, purchasing the various items given to attendees, coordinating the AV setups and keeping them working, and running the registration process – all of this and so much more constitute a large body of work that the average attendee barely touches.

OUR FRIENDS AT THE SAS INSTITUTE:
SAS provides a large amount of support to NESUG. Our liaison, Michael Smith, coordinated the efforts of SAS staff, offered suggestions, and worked with us to meet the numerous deadlines. We are extremely grateful to him and the User Group Support Staff for their efforts before and during the conference. In addition, we appreciate the efforts of the SAS graphics artist, Kimberly Riddell, and the SAS Print Center in producing our publications. We also thank our Opening Session keynote speaker, Paul Kent, for delivering an entertaining and informative speech that delighted the audience.
A FOREWORD TO THESE PROCEEDINGS

We also thank graphic artist Kim Riddell for all the patient help she gave to us as we prepared the various publications, including this one.

A TIP OF THE HAT TO DCSUG:
The Washington area SAS Users Group (DCSUG) provided attendees with information on points of interest in the Washington DC metropolitan area. This included the preparation of an invaluable brochure of local attractions, interesting walks, shopping and great places to eat. During the conference they manned an information table for attendees. We thank them so much for their hard work and conscientious support, and especially Howard Schreier and Arlene Siller for preparing the Do-DC brochure.

AND FINALLY, TAKE A BOW YOURSELF
Above all, we thank you, the NESUG 2003 attendee, for your attendance at the presentations and your interest in the conference. We welcome any feedback that you can provide; this will be used to plan for future meetings. We hope that you enjoyed the conference, found the information useful in your professional career, and we trust that you will be encouraged to continue to participate in the future, as an attendee, as a presenter, as a session coordinator, as or section co-chair. We were glad to be able to meet many of you, and we hope to see you again next year in Baltimore, Maryland NESUG 2004.

Ralph Leighton and Larry Altmayer
NESUG 2003 Conference Co-Chairs