



## HARTFORD AREA SAS® USERS GROUP

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Fourth Quarter, November 2005

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The HASUG Flash is available for reading on the World Wide Web at <http://www.hasug.org>  
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## **CHAIRMAN'S NOTES**

**By Rob Krajcik, Bristol-Myers Squibb**

At the May 2005 meeting, I was asked if I was interested in taking over as chairperson and webmaster for HASUG and I accepted. I feel honored to be able to serve HASUG, one of the oldest, local, free SAS user groups in the nation.

Our November, 2005 meeting will be held in Wallingford, CT at Bristol-Myers Squibb. Cindy Johnson will be our hostess for this meeting. Please use our online registration form to register for a seat. We are having some interesting presentations that you will be sure to enjoy.

I echo the requests of past chairpersons and ask all our members to please step up and become involved in this organization. There are many jobs and tasks in which to participate, such as become a member of our steering committee, supply some SAS tips or techniques for the newsletter, host a future meeting at your site, review a SAS publication, send in a suggestion for a future topic, present your ideas to the group (we are always looking for presenters), or just help out in any way you can.

I look forward to seeing you in November!

## **HASUG MEETING ANNOUNCEMENT**

Our next meeting is Thursday November 10th, at  
Bristol-Myers Squibb  
5 Research PKWY  
Wallingford, CT 06492  
from 9:00 am to noon.

Our Topics and Speakers will be:

### **MULTILABEL - An useful addition to the FORMAT procedure**

**Venky Chakravarthy, Bristol-Myers Squibb**

PROC FORMAT is an indispensable tool for the SAS programmer. Until recently, two of its limitations were the inability to specify (1) overlapping ranges and (2) secondary labels. The MULTILABEL option introduced in version 8.2 overcomes these limitations. It also has some powerful applications in generating tables for Clinical trials data. This paper illustrates MULTILABEL with an example to summarize age categories where some age values are mapped to

more than one category. The paper also addresses some of the limitations of this new option. A bonus feature of this paper is the coverage given to some useful enhancements to PROC MEANS that are especially relevant to summary tables generation in the Pharmaceutical Industry.

Venky Chakravarthy has been a SAS User since 1991. He has presented a number of papers at SUGI, PharmaSUG and Local SUG meetings. He is also a SAS-L contributor from time to time. He has plenty of experience providing SAS consulting and contracting services. Venky has been specializing in the Pharmaceutical industry for the last 6 years and he currently works at Bristol-Myers Squibb Company as a full time employee. Venky received his Ph.D in Social Welfare from Case Western Reserve University in Cleveland, Ohio.

### **Character Function Fun in SAS9**

**Tim Muir, Boehringer Ingelheim  
Pharmaceuticals, Inc.**

SAS has always seemed to have the same basic character functions, like TRIM, LEFT, SCAN, SUBSTR, and INDEX, to name a few, which we have all become quite familiar with. In version 9, there are some new functions around that will take the bite out of, and should even replace some of these older functions. This presentation will examine some of these character functions.

A SAS user for 13 years, Tim has gained his experience supporting statistical analyses and research, primarily in the pharmaceutical and biotechnology industries. At HP/Compaq, he worked to analyze customer behavior and trends for computer technology purchase and development. While in the Boston area, he participated in BASUG steering committee and served as webmaster. Back in Connecticut now, he participates on the HASUG steering committee, and works in the IT department at Boehringer Ingelheim Pharmaceuticals, where he provides SAS programming and site support to Research and Development.

### **Generating SAS code using SAS**

**Xiu Chen, Synectechs, Inc.**

Working with clinical trial data, we often need to repeat the same analysis for a number of similar studies. To save time and improve accuracy, it is important to make our programs efficient and reusable. SAS macros are often employed to achieve this purpose. An alternative to using SAS macros is to write programs that write additional code so that the combined programs are data driven and depend

less on user input. This technique can also be used to produce code that is highly repetitive and yet specific to the data being analyzed.

The presenter will demonstrate several cases and techniques based on clinical trials data.

Xiu Chen holds a M.S. in Statistics and has been working with clinical trials data since 1992. She has been an essential participant in five NDA submissions and has worked on numerous projects in a variety of therapeutic areas. Ms. Chen is president of Synectechs, Inc., which she co-founded over ten years ago.

## **AUGUST MEETING HIGHLIGHTS**

### **By Tim Muir, Boehringer Ingelheim**

The August 18<sup>th</sup> HASUG meeting was held at the Laboratory of Epidemiology and Public Health (LEPH) at Yale University School of Medicine in New Haven. As always HASUG appreciates the support of Yale University, and other host organizations, which along with the steering committee, volunteers, and speakers, make these meetings possible.

Before the presentations started, it was announced that Rob Krajcik, of Bristol-Myers Squibb, had taken the position of Chairman of the Hartford Area SAS Users Group, replacing Karol Katz, who had been Interim Chairman. Rob will also be the webmaster. We would like to thank Karol for stepping in and helping to make the transition an easy one for Rob.

Heading up this meeting was Janet Stuelpner of Left Hand Computing, Inc, who led attendees from a data step method of transforming data structures to transforming data structures with PROC TRANSPOSE, a procedure to 'Turn IT Around', effectively changing rows into columns, and columns into rows. Demonstrating, in a step-wise fashion, she showed the effects of the different PROC TRANPOSE statements and included discussions about the options used in the procedure including: PREFIX, BY, ID, IDLABEL. This is a great procedure for data transformation.

Following Janet was our chairperson, Rob Krajcik, who gave us one of the secrets to getting more leisure time by using various tools, techniques, and settings within an interactive SAS session. For example, he demonstrated how it was possible to create an abbreviation that, when typed in the

enhanced editor, would create a program header with fields like date and program populated automatically. In another example, he defined a key combination that, when pressed, would execute a macro that parsed the log and printed a summary of errors and notes found in the log. There were some other things, but you can get the gist of the presentation.

During the last presentation, Ken Hausman, from the Boston SAS office, presented different components of the SAS 9 Business Intelligence platform, including Enterprise Guide, the SAS Management Console, Web Report Studio, and the Microsoft Add-in. The creation and use of Stored Processes, or stored programs was pretty much a common thread to each of these. There's simply not enough space to describe each of these in detail. I have no idea how Ken effectively covered all of this information in such a short period of time with real server simulations. He must be an android. Regardless, that is some slick stuff (and being discounted heavily). :)

It was a great meeting.

## **CALENDAR OF EVENTS**

### **Future General Meetings and Conferences:**

Nov. 10, 2005 Bristol-Myers Squibb, Wallingford, CT

Feb. 16, 2006 Boehringer-Ingelheim, Ridgefield, CT

May, 2006 TBD

### **HASUG Steering Committee Meetings:**

Nov. 10, 2005 Immediately after HASUG meeting

Dec. 15, 2005 conference call, 11:30-12:30

Feb. 16, 2006 Immediately after HASUG meeting

Mar. 16, 2006 conference call, 11:30-12:30

## **EDITORIAL and PRODUCTION STAFF:**

Editor:	Janet Stuelpner
Layout:	Albert Lavoie
Member Lists:	Charles Patridge
Web master:	Rob Krajcik
Contributors:	Karol Katz
	Rob Krajcik
	Valorie Leaman
	Tim Muir
	Chuck Patridge
	Peter Prause

**CONTINUING With EDUCATION...  
Peter Prause, The Hartford**

**Destiny Corporation** is offering the following public courses at their training facility located at 2075 Silas Deane Highway, Rocky Hill, CT. You can reach Destiny at 1-800-787-2464 or at 860-721-1684, or send an email to [info@destinycorp.com](mailto:info@destinycorp.com). You can visit their web site at [www.destinycorp.com](http://www.destinycorp.com).

Enterprise Guide: Querying and Reporting	Nov 3-4
Programming I: SAS Essentials	Nov 14-16
Intro. to Programming Using SAS Software	Nov 17-18
SAS Programming III: Advanced Techniques	Nov 21-22
Output Delivery System (ODS) Basics	Dec 5-6
SQL Processing in SAS Software	Dec 15-16
Report Writing: A Programming Approach in SAS Software	Jan 9-11
SAS Version 9 Changes and Enhancements	Jan 16-17
Web Processing: Creating Web Solutions Using SAS/IntrNet Software	Jan 18-20

In addition to Destiny's public course offerings, many of Destiny's courses are offered in a Virtual Learning Environment. Experience the quality and benefits of "Instructor Led" training from the comfort of your own pc. These courses cover the same basic content as traditional classroom training with the benefit of year long access and instructor support. Call or visit [www.vdestiny.com](http://www.vdestiny.com) for more details.

**The SAS Institute Regional Training Center** in Glastonbury, CT is offering the following courses. Course information for these courses and many other non-local courses is available on the Internet at the SAS web site: [support.sas.com](http://support.sas.com). To register for a course or to get more information, phone SAS Institute at 1-800-333-7660.

SAS Macro Language	Nov 2-3
SAS Macro Programming: Advanced Topics	Nov 4
SAS Programming I: Essentials	Nov 7-9
SAS Programming II: Manipulating Data with the DATA Step	Nov 30-Dec 2
Querying and Reporting Using SAS Enterprise Guide	Dec 13-14
SQL Processing with SAS	Dec 15-16
SAS Programming I: Essentials	Jan 25-27
Creating and Exploiting OLAP Using the SAS System	Feb 2-3
SAS Programming II: Manipulating Data with the DATA Step	Feb 27-Mar 1
SAS Programming I: Essentials	Mar 29-31
Creating Detail and Summary Reports	Apr 5-7
SAS Programming III: Advanced Techniques	Apr 19-21
SAS Macro Language	May 3-4
SAS Macro Programming: Advanced Topics	May 5
SAS Programming I: Essentials	May 22-24
SAS Programming II: Manipulating Data with the DATA Step	May 31-Jun 2
Querying and Reporting Using SAS Enterprise Guide	Jun 8-9
SQL Processing with SAS	Jun 15-16

When time and distance are an issue for you, SAS Institute offers Live Web classes and self-paced E-learning to help you get the training you need while accommodating your busy schedule. Call for more details.

## **NESUG 2005**

**By Valorie Leaman**

The 2005 NESUG conference was held in Portland, Me. We were treated to excellent weather and enjoyed the many sights and the overall ambiance of Maine's largest, yet remarkably quaint city. Some of the conference activities included Trolley Tours, a visit to the Portland Museum of Art, (with music played by a former SAS programmer) and even an interactive cooking demonstration.

It was evident from all of the events and presentations that Lois Levin and Sue Douglas, conference co-chairs, did extensive planning to bring this conference to successful fruition. For the first time, they allowed for a two-hour lunch break. This was a big hit with the crowd. This allowed the attendees to have time to eat, take in the sites of the city or visit the Poster Exhibits. The keynote speaker, David Baggett, from SAS Institute, opened the conference by sharing some of his personal experiences and the importance of the unique partnership between SAS users and SAS as a company.

The Paper presentations encompassed a wide variety of topics, covering many perspectives and levels of expertise. All of these are available on disk and were handed out to those who attended. The Poster exhibits featured topics ranging from tips and techniques to comparisons of analytic tools and attendees voted on their favorite. It was fun to meet authors and presenters in the Demo Area and Exhibit room which was always buzzing with activity. Since this was my first NESUG Conference, I was excited to meet other users and hear how others were getting the job done in their various fields. I am already looking forward to NESUG 2006 in Philadelphia!

## **THE HASUG RECRUITING POLICY**

HASUG's primary mission is to provide a forum for SAS professionals to meet and share experiences. HASUG also recognizes that searching for new employment opportunities is a normal activity when professionals meet. Since we depend on our respective employers to support HASUG by providing time for members to attend, prepare presentations, and provide meeting facilities, we do not wish to jeopardize those relationships we have all nurtured.

Therefore, when attending any of our quarterly meetings, we request that all parties engaged in recruiting activities be "professional and discreet", and suggest that such activities be carried outside and after our meetings. Those seeking or offering positions may display materials at a location designated by HASUG at each quarterly meeting. The materials may include resumes, job openings, contract opportunities, business cards, etc. None of the materials may include salary information. All such materials left after the meeting will be discarded. Violators of this policy may be asked to leave the meeting.

For other recruiting opportunities, please see the SAS CONSIG article elsewhere in this newsletter or visit [www.sconsig.com](http://www.sconsig.com)

## **THE HASUG SPONSORSHIP POLICY**

All parties are encouraged and welcome to attend our quarterly HASUG meetings scheduled during the months of February, May, August, and November of each year. Usually these meetings are scheduled the 3rd Thursday from 9:00 am to noon at various locations throughout Connecticut. Past locations have included Hartford, Meriden, Middletown, Norwalk, Glastonbury, Stamford and New Haven. We are always looking for new hosts within the state of Connecticut. If you feel your organization can host a meeting of up to 70 or so people, please contact one of the Steering committee members.

## **CONSULTANTS' SPECIAL INTEREST GROUP(SCONSIG)**

The SAS Consultants' Special Interest Group (SCONSIG) operates and maintains a web site located at [www.sconsig.com](http://www.sconsig.com). The site lists employment opportunities, contracts, vitas, resumes, and companies seeking SAS professional talent. It is updated weekly. You are encouraged to visit that web site or to contact Charles Patridge at:

[Charles\\_S\\_Patridge@prodigy.net](mailto:Charles_S_Patridge@prodigy.net)

## HASUG2-L DISTRIBUTION LIST

This service is provided free of charge to all who wish to subscribe to the email notification process. In order to sign up for this service, you need only point your browser to the HASUG web site, <http://www.hasug.org>, and click the hyperlink

### [Join HASUG Email Distribution List](#)

Or go directly to

<http://listserv.pace.edu/archives/hasug2-l.html>

then click on

[Join or leave the list \(or change settings\)](#)

After entering your name and e-mail address, there are a number of options available under "Subscription Type". If you know and understand the various options, feel free to alter them as desired. However, HASUG suggests you leave them "as is". Your name and email address are not displayed nor given out to any party, including members of the HASUG steering committee. Only the list administrators have access to subscription information.

If you should change your email address under which you subscribed, you will need to unsubscribe with your old email address, and then re-subscribe using your new email address.

Typically, a notice is sent approximately 3 weeks before meetings, as well as a couple of days beforehand to remind people of the date, time, location and topics to be presented.

***Only List administrators will be able to send out email messages to the HASUG2-L members.***

## HYPERLINKS OF INTEREST

SAS Users often ask, "How can I find any recent SUGI papers that deal with a particular subject?" Lex Jansen has put up the following link that lets one search the online SUGI proceeds using the Google search engine:

<http://www.lexjansen.com/sugi/>

Similarly, to search the SAS-L archives, one can use the following two links:

<http://www.axomsoftware.com/sas-l.php>

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&group=comp.soft-sys.sas>

The SAS Consultants Special Interest Group's web site URL is:

<http://www.sconsig.com>

Read Past SUGI Proceedings Online at:

(link supplied by Curtis Smith):

<http://support.sas.com/usergroups/sugi/proceedings/index.html>

Information about the North East SAS Users Group (NESUG), including information about the 2004 conference in Baltimore can be found at:

<http://www.nesug.org>

SAS OnlineDoc is available from SAS on the World-Wide Web. To register to view SAS Version 8 OnlineDoc on the web, register at the following URL:

<http://www.sas.com/v8doc>.

To register to view SAS Version 9 Online Doc on the web, register at the following URL:

<http://www.sas.com/v9doc>.

Some of the papers and other handouts distributed at recent HASUG meetings can be found at the following two web sites:

<http://www.hasug.org>

<http://www.bassettconsulting.com>

## TIPS and TECHNIQUES

Compiled by Charles Patridge

Disclaimer:

"Each tip included here addresses a problem, and presents a use of one or more SAS concepts. Use it to stimulate your thinking and help you on your way to solving your own problem. Some tips may or may not work in your environment or with your version of the SAS Software, and you should use these tips with this in mind. Neither HASUG nor contributing Author(s) should be held responsible for any direct and/or indirect damage to you or your applications from using these free tips."

*SAS, SAS/ACCESS, SAS/CONNECT, SAS/FSP, SAS/GRAPH, SAS/IntrNet, and SAS/STAT are registered trademarks of SAS Institute Inc., Cary, North Carolina.*

*Tips in blue/**bold** are located within this newsletter.*

### Experimental GLMSELECT Procedure

The newest addition to SAS/STAT software is an experimental procedure that performs model selection. The new procedure is available, by download only, for the Windows platform and works with the SAS 9.1 release. The GLMSELECT procedure performs effect selection in the framework of general linear models.

Read More at: <http://support.sas.com/rnd/app/da/glmsselect.html?ETS=2805&PID=44951>

### SAS Raises Bar on Data Mining and Text Mining

SAS will ship enhancements to our award-winning data mining and text mining software this fall. SAS' integrated data mining and text mining capabilities uncover insights quickly from information contained in structured data, as well as unstructured data, in large document collections.

Read More at: <http://www.sas.com/news/feature/18aug05/data.html?ETS=2805&PID=44951>

### SAS/ACCESS® 9.1x Interface to DB2 on the Mainframe Using the LIBNAME Engine

This white paper provides an overview of the most important features and capabilities of the SAS/ACCESS Interface to DB2. General and technical product information is given for SAS/ACCESS and DB2 RDBMS users.

Read More at: <http://support.sas.com/documentation/whitepaper/technical/accessdb2.pdf?ETS=2805&PID=44951>

### Quick Tip: Using the ERROR Statement to Identify a Data Error

This example shows how you can code an ERROR statement to customize error information written to the SAS log. Read More at: <http://support.sas.com/ctx/samples/index.jsp?sid=824&ETS=2805&PID=44951>

## TIP00409

**/\*\* Author: Charles Patridge**

**Macro: makeVarList.sas**

**Purpose: create a macro variable that contains the list of variables within a given SAS dataset which are only C=Character or N=Numeric variables**

**Parameters:**

**1st = \_sasdsn\_ - name of SAS dataset to search through to create macro variable list**

**2nd = \_type\_ - N - create list of NUMERIC variables**

- C - create list of CHARACTER variables

OUTPUT: a macro variables - `_VarList_` will contain list of SAS variables which are either Numeric or Character **\*\*\***

```
%macro makeVarList( _sasdsn_ =, _type_ =N);
  %let _type_ = %upcase( &_type_ );
  %let dsid=%sysfunc(open(&_sasdsn_,i));
  %global _VarList_;
  %let _VarList_ =;
  %do i=1 %to %sysfunc(attrn(&dsid,nvars));
  %if (%sysfunc(vartype(&dsid,&i)) = &_type_) %then
  %let _VarList_ =&_VarList_ %sysfunc(varname(&dsid,&i));
  %end;
  %let rc=%sysfunc(close(&dsid));
%mend makeVarList;
```

**\*\*\* Sample Call and use of makeVarList \*\*\***

```
libname mylib 'c:\download\sas_salary\'; run;
%let mysasfile = mylib.sasalary;
%makeVarList( _sasdsn_ =&mysasfile, _type_ =C );
%put &_VarList_ ;
```

```
%makeVarList( _sasdsn_ =&mysasfile, _type_ =N );
%put &_VarList_ ;
```

**\*\*\* End of Tip 00409 \*\*\***

## TIP00410

```
%macro getVarType( _sasdsn_ =, _varname_ =,);
```

**\*\*\* getVarType macro**

**Author: Charles Patridge**

**Its purpose is to determine the Attribute Type of any SAS Variable within the SAS Dataset specified.**

**1st parameter - `_sasdsn_` - is name of SAS Dataset to search for the variable**

**2nd parameter - `_varname_` - is name of SAS variable to determine its type**

**This macro will create a global macro variable named the same as the variable in the 2nd parameter with "`_Type`" added to its name as a suffix;**

**for example, if variable given as 2nd parameter is "salary", the created macro name will be "salary\_Type"**

**The values of created macro variable will be**

**"C" - Character**

**"N" - Numeric**

**"" - variable given as 2nd parameter Does NOT EXIST (DNE) within the SAS Dataset in the 1st parameter.**

**This macro can be called on its own or within a DataStep - however it is more efficient if called on its own as a SAS variable can NOT change its type within a SAS Dataset.**

**\*\*\***

```
%let dsid=%sysfunc(open(&_sasdsn_,i));
```

```

%global &_varname_._Type;
%let &_varname_._Type = ;
%do i=1 %to %sysfunc(attrn(&dsid,nvars));
  %if %upcase(&_varname_) = %upcase(%sysfunc(varname(&dsid,&i))) %then %do;
    %let &_varname_._Type = %sysfunc(vartype(&dsid,&i));
  %goto _alldone_;
%end;
%end;
%_alldone_ : %let rc=%sysfunc(close(&dsid));
%mend getVarType;

```

```

/** example use of macro */
/**

```

```

libname mylib 'c:\download\sas_salary\'; run;
%let mysasfile = mylib.sasalary;

```

```

%getVartype(_sasdsn_=mylib.sasalary, _varname_=salary);

```

```

data test;
set mylib.sasalary;
*** determine if salary is Numeric, Character, or Does Not Exist at all;

```

```

salary_type = "&salary_Type" ;

```

```

    if salary_Type = "N" then flag = "Numeric ";
    else if salary_type = "C" then flag = "Character ";
    else          flag = "DNE ";
run;

```

```

***/

```

```

/** end of TIP 00410 */

```

## TIP 00411

```

/**

```

**Macro: getFilepathname**

**Author: Charles Patridge**

**Purpose: Get the full file path name within a UNIX environment when issuing an ls -lt > filelist.txt and reading the filelist.txt into a SAS program and trying to get the filepathname.**

```

***/

```

```

%macro getFilepathname(_string_);
%global filepathname;
data _null_;
  if 0 ne index("&_string_",'/') then do;
    lastword = scan( "&_string_", -1, '/' );
    filepathname = substr( "&_string_", 1, index( "&_string_", trim(lastword)) + -1 );
  end;
  else filepathname = ' ';
  call symput('filepathname', trim(filepathname));
run;
%mend;

```

```

/** example call and use of getFilepathname */
/**
  %let mystring = /export/patridge/saspgms/myexcel.sas;
  %getFilepathname( &mystring );

  %put &filepathname;
  /export/patridge/saspgms/   */

/** end of TIP 00411 */

```

## THE HASUG STEERING COMMITTEE

<u>Name</u>	<u>Organization</u>	<u>Telephone</u>	<u>E-Mail</u>
Jim Blaha	CCSU	(860) 832-1737	blahajam@ccsu.edu
Cindy Johnson	Bristol-Myers Squibb	(203)-677-6547	GjCjtwink@aol.com
Karol Katz	Yale University	(203) 764-7527	Karol.Katz@yale.edu
Robert Krajcik	Bristol-Myers Squibb	(203)-677-6125	Robert_krajcik@yahoo.com
Rene Laurecot	Pfizer	(860) 686-1574	husky_123@yahoo.com.
Albert Lavoie	Independent	(860) 644-7632	alavoie1@cox.net
Barbara Moss	CIGNA	(860)226-1504	Barbara.Moss@CIGNA.com
Tim Muir	Boehringer Ingelheim	203-798-5259	Muir_tim@hotmail.com
Chuck Patridge	Deloitte Consulting	(860) 725-3329	Charles_S_Patridge@prodigy.net
Peter Prause	The Hartford	(860) 547-7484	Peter.Prause@thehartford.com
Kevin Smith	Oxford Health Plans	(203) 459-6145	KevSmith@oxhp.com
Janet Stuelpner	Left Hand Computing	(203) 588-8583.	jstuelpner@usa.net
Mahinda Yapa	Pitney Bowes	(203) 922-4662	www.pb.com
Gerald Zuckier	Aetna	(203) 624-0940	GZuckier@alum.mit.edu

## Directions to Bristol-Myers Squibb Company

Research Parkway  
Wallingford, CT 06492

### Via Route 15 (Merritt / Wilbur Cross Parkways)

Exit 66 in Wallingford  
Left at light at end of ramp onto Rte. 5 South  
Stay on Rte. 5 for approx. 1/2 mile  
Left immediately past Shell station onto access road or Rte. 68  
Left at light onto Rte. 68 East  
Follow Rte. 68 past Courtyard Hotel (on left), past entrances to I-91  
Left at 1st traffic light past I-91 (not incl. Entrance to I-91 North) onto Research Parkway  
Bristol-Myers Squibb driveway is the 1st on the right

### Via I-95 (New England Thruway) and New Haven Area

I-95 North to Exit 48 (left exit) onto I-91 North  
Stay on I-91 for about 15 miles to Exit 15 (Rte. 68)  
Right off exit onto Rte. 68 (east toward Durham)  
Left at 1st light onto Research Parkway  
Bristol-Myers Squibb driveway is the 1st on the right

### Via I-91 (from Hartford)

I-91 South to exit 15 (Rte. 68)  
Left at light at end of ramp  
Left at 1st traffic light past I-91 (not incl. Entrance to I-91 North)  
onto Research Parkway  
Bristol-Myers Squibb driveway is the 1st on the right

