



PhUSE 2016

Frank Senk, US Membership Director
Chris Hurley, US Events Director
Monday, February 22, 2016



Introductions

Co-Chairs

- [Micky Salgado-Gomez](#), PharmaStat
- [Joan Bailey](#), *Ionis Pharmaceuticals*

PhUSE Directors

- [Frank Senk](#), AstraZeneca
- [Chris Hurley](#), MMS Holdings



Good Programming Practice

Agenda

Time	Presentation	Speaker
8.15 - 9.00	Registration & Welcome Refreshments	
9.00 - 9.30	Welcome - SDE Co-Chairs	Micky Salgado-Gomez, <i>PharmaStat</i> & Joan Bailey, <i>Ionis Pharmaceuticals</i>
9.30 - 9.45	Introduction to PhUSE	Chris Hurley & Frank Senk, <i>PhUSE</i>
9.45 - 10.30	Best Practice Programming Technique Using SAS Software	Kirk P. Lafler, <i>Software Intelligence Corporation</i>
10.30 - 10.45	Morning Break	
10.45 - 11.15	Key Elements to Develop SAS Macros and Programs	Wei Chang, <i>Ionis Pharmaceuticals</i>
11.15 - 12.00	Five Habits of Highly Effective SAS Programmers	Sunil Gupta, <i>Cytel</i>
12.00 - 1.00	Lunch & Networking	
1.00 - 1.45	Ensuring Quality Analysis by Integrating Specifications in the Process	Linda Collins, <i>PharmaStat</i>
1.45 - 2.15	Maximising Program Reviewability as Told through the Story of 'The Three Little Pigs'	Shelley Dunn, <i>d-Wise</i>
2.15 - 2.30	Afternoon Break	
2.30 - 3.15	Steps and Slides of Implementing Global Standards - Producing High Quality Programming Outputs Edition	Terek Peterson & Richard Addy, <i>Chiltern</i>
3.15 - 3.45	Panel Discussion & Q&A	All Speakers
3.45 - 4.00	Closing Remarks	Chris Hurley & Frank Senk, <i>PhUSE</i>

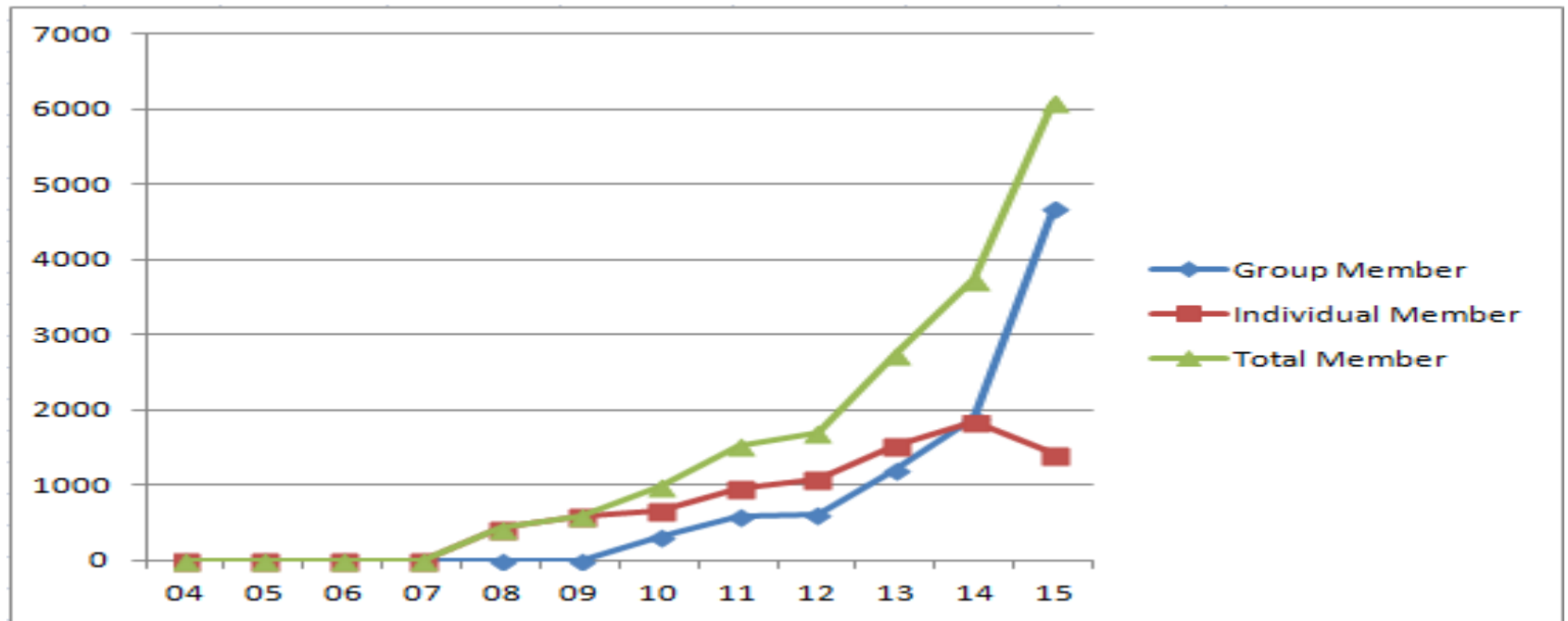


Today's Sponsors



2015 Membership

- 6000+ members
- 24 group members



2015 Highlights

- 500+ attended Annual Conference
- 250+ attended CSS Conference
- 18 Single Day Events
- 5 Working Groups with 27 Active WG Projects
- US FDA, EU EMA, Japan PMDA Collaborations
- PhUSE-Industry Futures Forum



2016 Membership

- Membership drive Dec 2015 to Jan 2016
- 5000+ members

Where do we go from here?



2016 Single Day Events

- Schedule for 20+ SDEs worldwide in 2016
 - EU → 1st event in 2008
 - US → 1st event in 2010
 - India → 1st event in 2013
 - China → 1st event in 2013
 - Japan → 1st event in 2014
 - Other → Australia, South Africa, Brazil, Mexico?



2016 Single Day Events

	 	Utrecht, Netherlands - 4th February San Diego, CA - 22nd February
	 	Chennai, India - 16th April Indianapolis, IN - 21st April
	   	Cambridge, UK - 23rd May Beijing, China - TBC Denmark - TBC Germany - 10th May
	 	Gaithersburg, MD - 2nd June Hyderabad, India - 18th June



2016 European CSS

- 1st European CSS
- Run as a SDE
- Interested parties include
 - PhUSE membership
 - Regulatory agencies
 - CDISC community
 - Pharma



2016 CSS



The 5th PhUSE Computational Science Symposium

Computational Science Symposium

March 13th–15th 2016

Silver Spring Civic Center, Silver Spring, Maryland, USA



PhUSE 2016 US SDE San Diego, California

2016 Annual Conference



Annual Conference 2016

Fast Track to Approval: Speed and Efficiency

9th - 12th October 2016

****Registration Opens 1st March****



Futures Forum

Project Charters

- Analytics
- Interoperability
- Technology
- People
 - Patients and other Stakeholders
 - People within Organizations
- Process



Volunteers



Good Programming Practice

GPP Governance

- Steering board
- Highlight standards
- Point out what to avoid
- Ensure code is easily maintained and shared
- Make guidance second nature
- User Feedback Required



Start With

- Clinical Study Protocol
- Annotated Case Report Form (aCRF)
- Statistical Analysis Plan
- Analysis Dataset Plan
- Table, listing and figure shells
- Existing standards – company/CDISC



Program Structure

- Program header
 - Revision history
- Comments
 - Helps in reviewing, modifying and using program
- Naming conventions
 - CDISC, internal standards
- Coding conventions
 - Log checking, portability, hard-coding, defensive



Program Header

- **Required elements**

- The following should be included in all program headers:
- Identification of the project of which the program is a part.
- Program name.
- Author identification which should be human readable and unique.
- Short description of program purpose.
- List of macros used in the program.
- Date program was first put into production, was finalized, or when past first validation.
 - This date will be chosen based on the operational procedures used within the company /organization creating the program. The date should indicate the first date when the program was released for final use.
- Revision history (author, date, description, reason).



Program Header

- **Recommended elements**

- All outputs generated by the program, including both file creation and modification.
- External files used such as datasets or databases that are used as data inputs to the program or macros used.
- Platform and operating system for which the program was developed to run.
- Software/programming language and version which the program was programmed in.



Program Comments

- All major data or proc steps should be commented
 - Especially data specific and complex code.
- Should be comprehensive and describe rationale
- Could link to external documentation
- Visually split program into sections
- Do not use SAS key words
 - Warning
 - Error



Program Conventions

- Naming conventions
 - Don't overwrite work datasets
 - Meaningful names, uppercase?
- Coding conventions
 - Use of run and quit
 - Indentation
- General conventions
 - Logical separation of code



Hard Coding

- Should be avoided if possible
- Changes should happen in the database if possible
- If unavoidable
 - use % put in logs
 - Follow a documented process
- Log checker should show the comment



Program Processing

- Use Development vs. Production
- Use driver programs
 - Don't include specific references to drives/folders
 - Use macro variables within programs for system setup
- Back-up your programs
- Check your SAS Logs
 - Don't depend on log to catch a logic error!
- Save and save often



Conclusions

- Start with the end in mind
- Use Good Programming Practice guidance
- Create conventions and reuse often
- Review source code with other programmers
- Monitor GPP compliance from time to time
- Programmatically check your SAS Logs
- Visit the Phuse.eu website often



Good Programming Practice Guideline

- [http://www.phusewiki.org/wiki/index.php?title=Good Programming Practice Guidance Use Development vs. Production](http://www.phusewiki.org/wiki/index.php?title=Good_Programming_Practice_Guidance_Use_Development_vs._Production)
- Note: Feedback always appreciated
- GPP linked on the main page



GPP





The premier community for people working in the biometric area



@PhUSETwitta



PhUSE



www.phusewiki.org