

Statistical Methodology and Computing Service
Report of Activities
1 September 2012 to 31 August 2013

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Introduction

Introduction

What have banana hybrids, tree saplings, computer aided surgery, Williams syndrome, and a survey to explore consumer behavior in the Belgian telecommunications market have in common?

They were all among the 440 projects to which the SMCS provided statistical assistance during the academic year 2012/13. In addition, our staff delivered around 70 days of training to a total of 532 participants, provided access to specialized statistical software and a high performance computing server, and gave crucial input in creating the Big5-Stat initiative for easier access to common statistical software.

Our service contributed to more than 30 publications and presentations, saved lots of statistical analysis time, added practical statistics modules to a training program for unemployed scientists (more than 30 of the 40 participants found jobs within 6 months), equipped the Belgian telecommunications regulator with a detailed characterization of consumer attitudes and knowledge in the Belgian market, and led to a better statistical software distribution at UCL at lower cost.

All this was possible with a consulting staff of only a bit more than four full-time equivalents supported by a network of associated academics and consultants and minimal administration. It proves that 1€ invested in such a professional statistical service leads to a gain of 3-10€ in efficiency and performance.

Although a service such as ours should be as natural at any university as the library, it remains an exception. There are at least three reasons for this: Statistics is not yet sufficiently recognized as a major productivity driver, too few statisticians are trained to act as professional consultants, and the organization of many universities does not provide an adequate position and recognition of such a service.

Fortunately, UCL has been more supportive than many other universities: It permitted the creation of a statistical consulting service, equipped it with initial budgets and supported further funding to allow it to grow to its present size.

However, even at UCL, such a service only survives by the relentless effort of its dedicated members and associated academics in convincing colleagues, department heads, the presidents of the sectors, and the central administration to continue supporting it.

I would therefore like to thank all who have contributed and who still contribute to let this very useful but always endangered support group live and grow.

There are two specific challenges to meet in the near future.

We have to finally stabilize the position of at least one consultant and to provide a professional perspective. Currently, only two of the four full time equivalents of statistical consultants are on ordinary budget. This is too little on the long run. Fortunately, the sectors agreed to fund a third full time equivalent and a part of the training and computing budget via a temporary distribution key. We hope that this can be made more permanent. In principle, we need four permanent full time equivalents: one per sector and one for the statistical computing.

We have to fully deploy the Big5-Stat software initiative. This will still take some work but on the other hand, the benefits of a limited standardization of statistical software in terms of teaching, acquisition, maintenance, and distribution largely outweigh the loss in flexibility. We also have to continue with the second part of our computing initiative: to improve access to specialized statistical software via a virtual desktop, an applications portal, or some other form of remote access.

We shall also redevelop our database and web site to manage trainings and consultancy.

Let's join forces again to make it happen.

Enjoy reading,

Christian Ritter

President of the management committee.

News

Organization

The management committee (comité de gestion) met three times to discuss strategy and development of the service. The three sectorial committees (comités d'utilisateurs) also met in late 2012. Several interesting ideas and suggestions came out of these meetings and we shall soon schedule a new round of them.

Personnel

The cancer center hired a new biostatistician, Aline Van Maanen, to support their clinical studies. She became associated member of the SMCS. We collaborate on statistical trainings for medical researchers and enjoy exchanging ideas.

Véronique Gosselain, who had supported the institutes IACCHOS, ISPOLE and IL&C, was replaced by Jonathan Dedonder. He also became an associated member of the SMCS.

The Big Five Initiative

In collaboration with the SGSI (university computing service) we started the Big5-Stat initiative. The access to the five most used statistical software packages is now simplified and without co-payment for university members (<http://www.uclouvain.be/big5-stat.html> gives further details).

The program started in April and is now reaching full activity. It is not surprising that this innovative new access and distribution program is still struggling with some technical and administrative glitches. We will contribute as well as we can to resolve them.

The Big5 initiative is a long time idea of our colleague, Bernadette Govaerts. We would like to thank her for all the energy she has put in it. Her motivation and in-depth knowledge of the administrative and technical aspects of the program will continue to be crucial in the future.

We would also like to thank the team of the SGSI for their participation. We know that the Big5 project initially makes their life more complicated. Yet, on the long run, procedures should become simpler for the

computing service. At the same time, the simplified access should improve the use of statistical software by UCL members.

Besides giving simplified access to statistical software, the Big5-Stat initiative also provided a framework for re-negotiating and adapting statistical software contracts to the actual needs. This led to substantial savings in some licenses which allowed extending others within the original budget.

In the academic year 2013/14, the steering committee for statistical software will continue working on Big5 but also on the next initiative aimed at rationalizing the access to specialized statistical software. In addition, the development of a remote access platform, either as a remote desktop or an applications portal is still in progress.

Administration and Miscellaneous

The development of a database to handle consulting requests and training offerings was more difficult than anticipated. In particular, the software framework based on Filemaker and linked to web pages via RedDot (now OpenText) proved too cumbersome and limited.

We therefore wrote a grant application to the CSES (Conseil du Service à la Société) for a professional development using a MySQL/PHP framework similar to the one created for the technology platform Welcome. The application was approved in July 2013.

The new system should make signing up for consultancy or training, project tracking and follow-up, as well as accounting much easier for clients and our staff.

In the meantime, we shall maintain and improve the current system as well as possible.

Finally, the SMCS was a partner of the ISBA in the organization of events to celebrate the Year of Statistics 2013.

People

People

Management and Administration

Director: Nathalie Lefèvre

President of Management Committee: Christian Ritter

Administrative support: Monique Tanga (from March to Mai 2012), Tatiana Regout (since June 2012)

Consultants

Céline Bugli

(UCL/IMMAQ/SMCS – 0.6 EFT)

Main areas of activity: Medical Sector (SSS), Science and Technology Sector (SST), services for external clients.



Doctor of Science – Statistique, Institut de Statistique, Université catholique de Louvain, Louvain-la-Neuve, Belgium, 2006

Master (DEA) in Statistics, Institut de Statistique, Université catholique de Louvain, Louvain-la-Neuve, Belgium, 2003

Ingénieur Civil en Mathématiques Appliquées, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2001

Alain Guillet

UCL/IMMAQ/SMCS – 1 EFT)

Main areas of activity: Medical Sector (SSS), and statistical computing.



Master professionnel Sciences, Santé, Technologie, mention Mathématiques et Applications, spécialité Ingénierie Mathématique, Université de Nantes, 2005

DEA en informatique, Université de Nantes, 2004

Nathalie Lefèvre

(UCL/IMMAQ/SMCS – 0.4 EFT and UCL/IPSY – 0.5 EFT)

Main areas of activity: Humanities Sector (SSH) and University Administration.



Master en Statistique, Institut de Statistique, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2007

Doctorat en Sciences psychologiques, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2003

Licence en Psychologie et en Sciences de l'Éducation, orientation psychologie expérimentale Université catholique de Louvain, Louvain-la-Neuve, Belgique, 1992.

Arnaud Pollaris

(UCL/IMMAQ/SMCS – 0.67 EFT and UCL/SC/LSBA – 0.33 from April to September 2013)

People

Main areas of activity: Humanities Sector (SSH) and services for external clients.



Master en Statistique, Institut de Statistique, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2011.

Master en sciences psychologiques, à finalité spécialisée, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2009.

Catherine Rasse (UCL/IMMAQ/SMCS – 0.8 EFT)

Main areas of activity: Science and Technology Sector (SST).



Master (DEA) en Statistique, Faculté universitaire des Sciences agronomiques, Gembloux, Belgique, 2007.

Ingénieur agronome, orientation Génie rural, Faculté universitaire des Sciences agronomiques, Belgique, Gembloux, 2001.

Matthieu Van Pachterbeke

(UCL/IMMAQ/SMCS – 0.6 EFT)

Main areas of activity: Humanities Sector (SSH) and University Administration.



Doctorat en sciences psychologiques, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2011.

DEA en sciences psychologiques et en sciences de l'éducation, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2007

Diplôme de gestion et administration des entreprises, Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2004

Licence en Sciences Psychologiques Université catholique de Louvain, Louvain-la-Neuve, Belgique, 2003

Associated Consultants

Associated consultants are professors or consultants who collaborate with the SMCS on trainings and consulting projects but who are not formally SMCS staff.

Professors

Bernadette Govaerts (UCL/IMMAQ/ISBA)

Main areas of activity: Industrial statistics, bio-informatics.

Catherine Legrand (UCL/IMMAQ/ISBA)

Main areas of activity: biostatistics.

Christian Ritter (UCL/IMMAQ/LSBA)

Main areas of activity: Industrial statistics, statistical computing.

Consultants at other institutes

Jonathan Dedonder (UCL/IACCHOS – since April 2013)

Sébastien Fontenay (UCL/IMMAQ)

Nathalie Lefèvre (UCL/IPSY)

People

Aline van Maanen (Cancer Center, University Hospital St. Luc)

Researchers at the ISBA

Some researchers and doctoral students of the ISBA participate in the consulting and training activities of the SMCS. This gives them an opportunity to gain valuable experience in practical statistics.

Workshop Instructors

The following list gives the names of the persons who contributed to the training and consulting activities of the SMCS. This includes SMCS and associated consultants, other members of the ISBA, visitors, and external trainers.

Jérôme Ambroise (IREC), Anne Benoît (ISBA), Aurélie Bertrand (ISBA), Céline Bugli (SMCS), Vincent Bremhorst (ISBA), Jonathan Dedonder (IACCHOS), Sébastien Fontenay (IRES), Bernard Francq (ISBA), Véronique Gosselain (IACCHOS), Bernadette Govaerts (ISBA), Alain Guillet (SMCS), Anne-Catherine Lantin (IREC), Sébastien Lê (Agrocampus Ouest, Rennes, France), Nathalie Lefèvre (SMCS), Catherine Legrand (ISBA), Marco Munda (ISBA), Diane Pierret (SC), Arnaud Pollaris (SMCS), Mathieu Pigeon (ISBA), Catherine Rasse (SMCS), Christian Ritter (ISBA), Cédric Taverne (ISBA), Catherine Timmermans (ISBA), Nathan Uyttendaele (ISBA), Aline Van Maanen (Cancer Centre, University Hospital St. Luc), Matthieu Van Pachterbeke (SMCS), Sam Waltener (FUSL), SAS Institute trainers.

Training

Training

This is one of our main missions. In general, we focus on hands-on training in practical statistics and the use of statistical software in ways which are not covered by regular university courses.

The SMCS offers the following types of training:

- Regular SMCS trainings: 2-3 day courses (once or twice per year) on commonly used statistical and associated software at UCL (SPSS, R, SAS, SAS Enterprise Guide, JMP, Stata, NVivo, Excel, Limesurvey).
- Customized trainings for specific audiences (UCL and external). Examples: 'Exploiter des données au moyen de la statistique descriptive - Mise en pratique avec l'outil SPSS. Formation sur mesure pour l'asbl Cap sciences humaines dans le cadre du projet "écoute violence conjugale" (taught by N. Lefevre and M. Van Pachterbeke), 'Stata training for the DG EMPL (European commission)' taught by S. Fontenay and A. Guillet). In general, the clients pay for the preparation of specific course modules or examples.
- Courses sponsored by the Walloon government agencies in the context of BioWin, a project to enhance the competitiveness of health related enterprises in the Walloon region. Courses offered within this framework are centrally advertised and course fees are partially subsidized.
- In partnership: courses taught in collaboration with SAS. Some annual or special courses qualify for sponsoring from SAS. The course 'Formation SAS: SAS advanced programming' belongs to this category.
- Lunch sessions (Midis du SMCS): short (1-3h) informal demonstrations of statistical methods or software of particular practical interest. Example: "Comment intégrer vos sorties R dans des documents" taught by C. Bugli and A. Guillet.

Besides these training, the SMCS take care of supporting occasionnal events that enrich UCL statistical culture.

For example, we welcomed Sébastien Lê, Lecturer-researcher in applied mathematics at Agrocampus Ouest (Rennes, France). We also hosted one a meeting of RBelgium, a software users group.

Table 1 shows the number of courses, course days, and participant days for the most recent accounting period from 1 September 2012 to 31 August 2013 (last column). During this time period, we taught 36 courses for a total of 67.5 training days. There were 532 enrollments for a total of 952.5 person days of training.

Adding Arnaud Pollaris and Matthieu Van Pachterbeke to our team allowed us to further diversify our training program. In 2012/13, we offered 36 courses (532 participants) as compared to 28 in 2011/12 (421 participants). The number of participant days was similar compared to 2011/12 despite the fact that one major training organized in 2011/12 has been postponed and as a consequence will fall in the next activity report (2011/12: 20.5 days of statistics trainings in the context of the course 'Formation en bioinformatique à destination de demandeurs d'emploi', 12 participants).

In general, fluctuations in the split among the sectors from year to year are natural since the attendance numbers per sector can be strongly influenced by trainings targeted to specific audiences who requested it. Example: Initiation à la méta-analyse avec R (IPSY paid for the trainer).

Our courses are open to external participants and we offer specialized trainings for enterprises and institutions at UCL.

Note that the participation statistics do not cover the SMCS lunch session since it does not require registration.

Training

Table 1. Number of courses and participation

	2011/12	2012/13
Number of trainings	28	36
Number of training days	71	67.5
Number of person days	969	952.5
Participants SSH	108	177
SSH/ESPO	2	12
SSH/FIAL		3
SSH/IACCHOS-ESPO	40	51
SSH/ILC	13	11
SSH/ILSM	9	7
SSH/IMMAQ	12	34
SSH/IPSY	25	41
SSH/ISPOLE	6	5
SSH/JURI	1	
SSH/LSM		1
SSH/PSP		11
SSH/TECO		1
Participants SSS	36	67
SSS/ASS	1	
SSS/DDUV	1	1
SSS/DENT		1
SSS/ESP		3
SSS/FASB		1
SSS/IONS	11	3
SSS/IREC	8	23
SSS/IRSS	7	17
SSS/LDRI	5	3
SSS/MED		1
SSS/MEDE		3
St Luc - varié	3	11
Participants SST	124	101
SST/AGRO		9
SST/ELI	81	42
SST/FSA		1
SST/ICTM	7	4
SST/IMCN		3
SST/IMMC	5	1
SST/ISV	29	13
SST/LOCI	2	17
SST/SC		11

Other	153	187
UCL-admin	2	1
UCL students	65	76
Other Universities	21	30
External	65	80
Total	421	532

Accounting period 1 September to 31 August

We routinely monitor the quality of our courses and act upon improvement opportunities (see section on quality). The complete listing of trainings given in 2012/13 is contained in the Appendix.

Consulting

Consulting

This is another of our main missions. We help researchers, administrators, and external clients in collecting meaningful data and in interpreting them.

Whenever possible, we provide methodological assistance to enable our clients to solve their problems by themselves. This can be just a piece of *advice* or a short *assistance*. This type of consultancy is pre-paid by the financial contribution of the sectors.

On occasion, the complexity or the amount of the statistical work requires that the SMCS consultant spends a larger amount of time on a project. The consultancy thereby evolves into *collaboration*. This requires additional funding by the client. Moreover, if the input of the statistical consultant yields new insight, common publishing rules require that he/she should become a co-author of publications based on the work.

Table 2. Origin of consulting projects

Client split	2011/12	2012/13
Research	325	339
Master's projects	78	81
Admin	9	10
External clients	14	10
Total	426	440

From 1 September 2012 to 31 August 2013, the SMCS worked on 440 projects (426 in 2011/12) of which 430 came from UCL (412 in 2011/12). The number of requests remained approximately constant and represents current capacity.

As expected, most of the projects concerned university research. Some, usually larger, projects involved the university administration and external clients. Example: A national survey of the public perception of the telecommunications market requested by the Belgian telecommunications regulator (IBPT). This project alone required more than 500 hours of work.

Table 3 shows that requests come from all three sectors. Globally, the volume continued to increase both with respect to the number and the time committed.

Table 3. Projects by institute

Origin of request	2011/12	2012/13
SSH	166	190
SSH/IPSY-PSP	119	112
SSH/ILSM-LSM	10	12
SSH/IACCHOS-ESPO	19	27
SSH/IMMAQ	5	10
SSH/ISPOLE	1	2
SSH/JURI-DRT	2	3
SSH/ILC	7	19
SSH/INCAL-FIAL	3	4
SSH/TECO	0	1
SSS	90	126
ASS	2	4
IONS	19	21
IREC	23	39
IRSS	7	15
Cliniques-MEDE	11	23
DDUV	1	5
FASB	7	1
FSM	15	13
FSP	1	2
LDRI	4	3
SST	149	108
SST/AGRO	18	10
SST/ELI	69	50
SST/EPL	1	1
SST/ISV	45	25
SST/ICTEAM	4	3
SST/IMMC	4	7
SST/IMCN	1	5
SST/LOCI	3	2
SST/SC	4	5
Other	7	6
Admin (central)	6	6
AL/UCL other	1	0
Number of projects	412	430
Number of hours	1672	2285

Computing services

Statistical Computing

Servers and Statistical Software

The SMCS maintains two servers, a statistical computing server and a software sharing server for specialized software. Moreover the SMCS works together with the SGSI initiatives to reduce barriers preventing university members from using appropriate statistical software.

For statistical computing, we have a dual server of which each part is equipped with a 12 core Intel Xeon X5675 processor, 96 GB of RAM, rapid disks for a total of 2100 GB. Moreover, Tesla GPU cards C2075 are coupled both systems which enable the system to perform certain computations in a highly parallel fashion (448 processors). Currently, SAS, R and Stata-MP are available. The new system therefore offers a lot more performance to the benefit of a growing user community. Moreover, the dual machine setup assures that the system remains accessible during most maintenance operations. The two servers are called smcs1 and smcs2.

This server system is hosted by the CISM (UCL high performance computing platform) who is in charge of the operating system and the storage management. Since the server system is part of the CISM network, users can also acquire easy access to the other high performance computing resources.

The statistical computing server was mainly used by researchers from IMMAQ, ELI and IRSS (the table 4 provides more details about the users of the two servers). Most of them are SAS users although there is are now more users of Stata (large RAM and multi-processors version), mostly from IMMAQ. The average CPU charge was 9% on smcs1 and 15% on smcs2 with both spikes (about 85%) occurring when users execute paralleled programs in Stata or R. More data analysts at UCL should consider using this server system. It offers more performance, storage, and data security than local PC-based systems.

The software sharing server is a Windows terminal server which hosts smaller statistical applications like HLM, Lisrel, MPlus, PASS, and UCINET. The idea behind

this service is resource sharing. Some specialized statistical programs are initially purchased and used by single individuals or work groups. However, use may be limited and these programs may also be of interest to other researchers at UCL. So, instead of installing them on local systems we promote an installation on our terminal server, as long as the license permits it. We can give the main user priority access while allowing others to use the program when it is available. The software sharing server also allows hosting statistical software which is no longer used but which has to be kept for follow up or future work.

Access to the sharing server was opened in late 2010 to people who agreed to experiment with using statistical software on a remote computer. There now are 38 users (33 from SSH and 5 from SSS). The high number of users from SSH is expected since some of the installed programs come from IPSY. We encourage other university members to contribute to statistical software for their own use and for the benefit of others.

This server is scheduled for replacement in 2014.

Table 4. Users by institute

User origin	Computing server	Software sharing server
SSH	51	33
SSH/IACCHOS	4	3
SSH/ILC	1	
SSH/ILSM	4	1
SSH/IMMAQ	32	9
SSH/IPSY-PSP	10	20
SSS	21	5
DDUV	1	
IREC	4	2
IRSS	16	2
LDRI		1
SST	34	0
SST/ELI	27	
SST/EPL	1	
SST/IMMC	1	
SST/IRMP	1	
SST/ISV	4	
Number of users	106	38

Computing services

Committee on Statistical Software

The SMCS participates in a steering committee on statistical software (sub-committee of the GSI) at UCL. The first mission of this committee was to design and to implement the Big5-Stat initiative, a way of giving easier access to the five most used statistical software packages to all members of UCL who need them.

In 2012/13, our representatives took part in all committee meetings and provided input concerning the choice of software packages to include, their licensing, and ways to distribute the software to a diverse public. The Big5-Stat distribution process is active since April 2013 and has reached full load since the September 2013. It is a pilot project on how to distribute software of interest across sectors. Some administrative and technical challenges remain and the steering committee will need to come up and implement some adjustments in 2013/14.

As required by the Big5-Stat initiative, we examined current licenses for the concerned statistical packages and were able to negotiate more adequate license contracts. This allowed us to expand coverage while reducing cost.

Once Big5-Stat is running in a satisfactory manner, we can address the next stage of the project: To rationalize as much as possible the use of other statistical software at UCL. In principle, the statistical software packages included in Big5 are sufficient to satisfy most statistical needs at UCL. For most users, no other statistical software will be needed. On the other hand, there is a small number of users who need specialized software to perform tasks which cannot be carried out with the tools in Big5. The use of these tools should be rationalized as well. One good way of doing so is via installation on a centralized server pool linked to a user directory in which per user access can be set.

Currently, the SMCS runs a windows terminal server for this purpose but this solution has a series of practical limitations. In collaboration with the SGIS, we are therefore exploring alternative solutions such as a virtual desktop or an applications portal.

Unfortunately, resources are very limited for this

exploration and progress has been slow. We hope that we can progress more in 2013/14 on this project.

A second part of the rationalization of specialized statistical software will concern university courses. In many cases, there is not yet an integrated approach to statistical software in university degree programs. We believe that all course instructors in a common area, such as economics, business, or medicine should review the use of statistical software in their area and agree on a common set. It would be best if as much as possible of this could be done with the tools included in Big5. This would simplify acquisition, maintenance, and training related to statistical computing and lead to more efficiency.

It is clear that there will be uses which go beyond what is foreseen in Big5. These should be identified and a proper distribution strategy should be defined.

Quality

Quality

Consultancy

No formal survey on quality of the consulting services was carried out in 2012/13. However, we frequently contacted former clients with respect to feedback and information on whether our input led to publications. Moreover, many of our projects in 2012/13 were with clients who had worked with us before. We were therefore able to identify several areas in which we should improve.

One of these areas concerns our documentation of the projects on which we work. Some of the research units whose members work with us require detailed records to help them in redistributing cost. We therefore tried to improve our current database and the tools to enter and extract data. This made us discover that the current setup based on Filemaker is not sufficiently powerful and flexible and we decided to re-develop the tool. We were able to obtain a grant from the CSES for this purpose.

We also found that our consulting team could benefit from a more systematic exchange of experience. We will therefore try to improve internal information exchange while keeping it as light and as informal as possible.

Training

Participants of most of our regular courses received evaluation forms. Those who responded were in general quite satisfied. In particular, the respondents liked the interactive nature and the practical orientation of the courses, that there were many exercises and applications in real life. Moreover, the trainers were very available to answer questions. On the negative side, some of the participants requested even more practical exercise and the opportunity to work on their own data. Moreover, some respondents complained about the heterogeneity of the course public: The same course was too advanced for some and too elementary for others.

In general, these comments mean that many of the course participants come because they really need to use the methodology or the software, often immediately. The heterogeneity of the participants will

be hard to change. For some courses, we may be able to add a day of elementary introduction for participants with little previous knowledge.

Unfortunately, the response rate of our course evaluation is not yet very high. We have to come up with a better system. Maybe our new data base and web interface supporting consulting and training will help with this.

At the FOREM course in 2012, we received comments from the participants to increase the number training days in statistics and to group them in a single block. In planning for the 2013 course, we contacted former participants who had meanwhile found jobs about their suggestions. This information was used in planning the course which takes place right now.

Also in the context of this course, we used SAS on Demand, an internet portal for training with SAS for the first time. This made us discover some limitations related to this way of working and we are currently studying an alternative solution via an enhancement of our server.

During the annual meeting of the users committee in the health sector, more courses at the Woluwe site were requested. We therefore decided to run courses for R and SAS at Woluwe. Attendance for the R course was satisfactory. Enrolment for the course on SAS was very low and we had to move it back to Louvain-la-Neuve, where there were more participants.

A demonstration of the JMP Clinical at Woluwe was planned but had to be cancelled due to organizational problems at SAS. In the meantime, the contact with JMP has improved and demonstrations are possible again.

Appendix

Appendix

2012-2013

List of Trainings

Title	Date	Duration	Trainer(s)
Pratique de la statistique avec SPSS	Du 3 au 7 septembre 2012	5 demi-journées	N. Lefèvre et A. Pollaris
Astuces Excel - Séminaire en LOCI	Le 4 septembre 2012	1 séance de 3h	C. Ritter
Cours d'initiation au langage R à Woluwe	Du 10 au 12 septembre 2012	6 demi-journées	A. Guillet et M. Van Pachterbeke
Initiation à la meta-analyse avec R	Les 13 et 14 septembre 2012	2 jours	A.C. Lantin et N. Lefèvre
Gestion et analyse des données avec Stata	Du 17 au 21 septembre 2012	5 demi-journées	S. Fontenay et A. Guillet
Initiation au logiciel Nvivo	Du 2 au 5 octobre 2012	4 demi-journées	V. Gosselain et N. Lefèvre
STAT2360 - Formation SAS : programmation de base	Les 8 et 15 octobre 2012	2 jours	Formateurs SAS Institute
Utilisation de R sur un cluster	Le 8 novembre 2012	1 demi-journée	N. Uyttendaele
Excel avancé et VBA au service de la Statistique	Le 8 novembre 2012	2 demi-journées	B. Francq
Publishing your work as an R package	Le 15 novembre 2012	2 demi-journées	Ch. Ritter
Training program in Clinical Study – Biostatistics (Cours ClinET – Biowin)	Du 27 au 29 novembre 2012	6 demi-journées	C. Bugli, A. Van Maanen et M. Munda
Plans d'expérience avec JMP (en collaboration avec Biophare)	Les 26 et 27 novembre et le 4 décembre 2012	6 demi-journées	B. Govaerts et B. Francq
Cours d'initiation à SAS pour les chercheurs	Du 10 au 14 décembre 2012	5 demi-journées	C. Bugli
Individual Loss Reserving. Formation sur mesure pour Aon Belgium SPRL	Le 14 décembre 2012	2 demi-journées	M. Pigeon
Introduction à LimeSurvey	Le 18 décembre 2012	2 demi-journées	S. Waltener et M. Van Pachterbeke
Pratique de la statistique avec SPSS	Du 7 au 11 janvier 2013	5 demi-journées	N. Lefevre et A. Pollaris
Cours d'initiation au langage R	Du 14 au 18 janvier 2013	5 demi-journées	A. Guillet et V. Bremhorst
Analyses multivariées en RCommander (FactoMineR)	Du 28 au 29 janvier 2013	4 demi-journées	C. Taverne et M. Van Pachterbeke
Exploiter des données au moyen de la statistique descriptive - Mise en	Les 22, 25 janvier et 1 ^{er}	3 demi-journées	N. Lefevre et M. Van

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pratique avec l'outil spss. Formation sur mesure pour l'asbl cap sciences humaines dans le cadre du projet "écoute violence conjugale"	février 2013		Pachterbeke
Exploiter des données au moyen de la statistique descriptive - Mise en pratique avec l'outil spss. Formation sur mesure pour Formelec asbl	Le 25 février 2013	1 demi-journée	M. Van Pachterbeke
Initiation au logiciel Nvivo	Les 18, 20, 25 et 27 février 2013	4 demi-journées	V. Gosselain et N. Lefèvre
STAT2370 - Formation SAS : SAS advanced programming	Les 18 et 25 février, 4 et 11 mars 2013	4 jours	Formateurs SAS Institute
Analyse de données qualitatives avec R : du diagramme en bâtons à l'analyse multidimensionnelle	Le 28 février 2013	1 demi-journée	S. Lê
Stata training for the DG EMPL (EC)	Les 18 et 19 mars 2013	4 demi-journées	S. Fontenay et A. Guillet
Stata training for the DG EMPL (EC)	Les 21 et 22 mars 2013	4 demi-journées	S. Fontenay et A. Guillet
Analyses et graphiques avec Rexcel	Les 14 et 21 mars 2013	2 demi-journées	Ch. Ritter
Gestion et analyse des données avec Stata	Du 15 au 19 avril 2013	5 demi-journées	S. Fontenay et A. Guillet
Introduction à LimeSurvey	Le 23 avril 2013	2 demi-journées	S. Waltherner et M. Van Pachterbeke
Training program in Clinical Study – Biostatistics (Cours ClinET – Biowin)	Du 23 au 25 avril 2013	6 demi-journées	C. Bugli, A. Van Maanen et M. Munda
Introduction aux modèles mixtes avec SAS	Les 13 et 14 mai 2013	4 demi-journées	M. Pigeon et C. Rasse
Publishing your work as a R package	Le 16 mai 2013	2 demi-journées	Ch. Ritter
Introduction aux modèles multi-niveaux avec SPSS	Du 27 au 30 mai 2013	4 demi-journées	M. Pigeon et A. Pollaris
Exploration de données et modélisation statistique avec JMP	Les 29 et 30 mai 2013	4 demi-journées	C. Rasse
Cours d'initiation à SAS pour les chercheurs	Du 3 au 5 juin 2013	5 demi-journées	C. Rasse
Cours d'initiation au langage R	Du 10 au 14 juin 2013	5 demi-journées	A. Guillet et M. Van Pachterbeke
Pratique de la statistique avec SAS/Enterprise Guide	Du 17 au 21 juin 2013	5 demi-journées	N. Lefèvre et V. Bremhorst

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List of Seminars

Title	Date	Duration	Trainer(s)
La formation continue en statistique et ses spécificités, présentation des activités du SMCS, Table ronde organisée par G. Saporta - 3ème colloque francophone international de l'enseignement de la statistique (CFIES 2012)	Du 12 au 14 septembre 2012	1 demi-journée	C. Legrand
Comment intégrer vos sorties R dans des documents	Le 22 février 2013	1 séance de 2h	C. Bugli et A. Guillet
RBelgium meeting 3	Le 15 mars 2013		
Séminaire en statistiques et présentation des logiciels de stat pour les doctorants IREC	Le 17 avril 2013	1 séance de 2h	C. Bugli
Atelier méthodologique de l'IL&C - Séance d'information sur les services et support à la recherche du SMCS	Le 14 mai 2013	1 séance de 2h	J. Dedonder et N. Lefèvre

Appendix

Publications and Presentations by SMCS members in 2012-2013

Although the primary mission of SMCS members is to support other research projects, its members are encouraged to participate in scientific meetings, to make presentations, and to publish.

Publications

- Amorim, C.A., Dolmans, M-M., David, A., Jaeger, J., Vanacker, J., Camboni, A., Donnez, J. and A. Van Langendonck (2012)
Vitrification and xenografting of human ovarian tissue.
Fertility and Sterility, 98(5), 1291- 1298, 2012
- Amorim, C.A., Jacobs, S., Devireddy, R.V., Van Langendonck, A., Vanacker, J., Jaeger, J., Luyckx, V., Donnez, J. and M.M. Dolmans (2013)
Successful vitrification and autografting of baboon (*Papio anubis*) ovarian tissue.
Human Reproduction, 28(8), 2146-2156, 2013
- Berlière, M., Duhoux, F.P., Dalenc, F., Baurain, J.-F., Delleveigne, L., Galant, C., Van Maanen, A., Piette, P. and J.-P. Machiels (2013)
Tamoxifen and Ovarian Function.
PlosOne, 8(6), e66616, 2013
- Borbath, I., Ceratti, A., Verslype, C., Demols, A., Delaunoit, T. Laurent, S., Deleporte, A., Vergauwe, P., van Maanen, A., Sempoux, C., Van Cutsem, E. and J-L. Van Laethem (2013)
Combination of gemcitabine and cetuximab in patients with advanced cholangiocarcinoma: A phase II study of the Belgian Group of Digestive Oncology.
Annals of Oncology, 00, 1-5, 2013
- Cartiaux, O., Banse, X., Paul, L., Francq, B.G., Aubin, C-E. and P-L. Docquier (2013)
Computer-assisted planning and navigation improves cutting accuracy during simulated bone tumor surgery of the pelvis.
Computer Aided Surgery, 18(1-2), 19-26, 2013
- Cartiaux, O., Paul, L., Francq, B.G., Banse, X. and P-L. Docquier (2013)
Improved Accuracy with 3D Planning and Patient-Specific Instruments During Simulated Pelvic Bone Tumor Surgery.
Annals of Biomedical Engineering, 2013
- Crahay, C. Declerck, S., Colpaert, J. V., Pigeon, M. and F. Munaut (2013)
Viability of ectomycorrhizal fungi following cryopreservation.
Fungal Biology, 117(2), 103-111, 2013
- Douilliez, C., Heeren, A., Lefèvre, N., Watkins, E., Barnard, P. and P. Philippot
Validation en langue française d'un questionnaire évaluant les pensées répétitives abstraites- analytiques et concrètes-expérientielles (Accepté/Sous presse).

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- Forget, P., Berlière, M., Van Maanen, A., Duhoux, F., Machiels, J.-P., Coulie, P. G., Bouche, G. and M. De Kock (In press).
Perioperative ketorolac in high risk breast cancer patients. Rationale, feasibility and methodology of a prospective randomized placebo-controlled trial. Medical Hypothesis.
- Forget, P., Machiels, J.-P., Coulie, P., Berliere, M., Poncelet, A., Tombal, B., Stainier, A., Legrand, C., Canon, J.-L., Kremer, Y. and M. De Kock M (2013)
Neutrophil: Lymphocyte Ratio and Intraoperative Use of Ketorolac or Diclofenac are Prognostic Factors in Different Cohorts of Patients Undergoing Breast, Lung, and Kidney Cancer Surgery.
Annals of Surgical Oncology, 2013 Jul 25. [Epub ahead of print]
(Collaboration avec St-Luc - projet de consultance interne non rémunéré)
- Francq B. And O. Cartiaux (2012)
When the surgeon doesn't cut straight. Delta method and bootstrap in a mixed model to estimate a probability and get its confidence interval.
ENBIS, 2012. Proceedings. (article en acte de conférence)
- Hollevoet, K., Nackaerts, K., Thas, O., Thimpont, J., Germonpré, P., De Vuyst, P., Bosquée L., Legrand, C., Kellen E., Kishi, Y., Delanghe, J.-R. and J.-P. van Meerbeeck (2012)
The effect of clinical covariates on the diagnostic and prognostic value of soluble mesothelin and megakaryocyte potentiating factor.
Chest, 141(2), 477-484, 2012
(Collaboration avec UGhent - projet de consultance externe non rémunéré)
- Kartheuser, A., Leonard, D., Penninckx, F., Paterson, H., Brandt, D., Remue, C., Bugli, C., Dozois, E., Mortensen, N., Ris, F. and E. Tiret (2013)
Waist Circumference and Waist/Hip Ratio are Better Predictive Risk Factors for Mortality and Morbidity after Colorectal Surgery than Body Mass Index and Body Surface Area.
Annals of Surgery, 2013
- Raj, G., Swalus, C., Guillet, A., Devillers, M., Nysten, B. and E.-M. Gaigneaux (2013)
Supramolecular Organization in Organic-Inorganic Heterogeneous Hybrid Catalysts Formed from Polyoxometalate and Poly(ampholyte) Polymer.
Langmuir, 29(13), 4388-4395, 2013
- Schrijnemakers, A., Francq, B.G., Cloots, R., Vertruyen, B. and F. Boschini (2013)
Mullite plasma spraying for in situ repair of cracks in mullite refractories: simultaneous optimization of porosity and thickness by statistical design of experiments.
Journal of Thermal Spray Technology, 22(7), 1133-1139, (2013)
- Tromme, I., Sacré, L., Hammouch, F., Legrand, C., Marot, L., Vereecken, P., Theate, I., Van Eeckhout, P., Richez, P., Baurain, J.-F., Thomas, L., Speybroeck, N. and DEPI-MELA study group (2012)
Availability of digital dermoscopy in daily practice dramatically reduces the number of excised melanocytic lesions: results from an observational study.
Dermatol, Epub ahead of print (2012)
(Collaboration avec St-Luc - projet de consultance interne non rémunéré)

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- Vanacker, J., Luyckx, V., Dolmans, M.M., Des Rieux, A., Jaeger, J., Van Langendonck, A., Donnez, J. and C.A. Amorim (2012)
Transplantation of an alginate-matrigel matrix containing isolated ovarian cells: First step in developing a biodegradable scaffold to transplant isolated preantral follicles and ovarian cells.
Biomaterials, 33(26), 6079-6085, 2012
- Vanden Berghe, M., Weijs, L., Habran, S., Das, K., Bugli, C., Pillet, S., Rees, J-F., Pomeroy, P., Covaci, A. and C. Debier (2013)
Effects of polychlorobiphenyls, polybromodiphenylethers, organochlorine pesticide and their metabolites on vitamin A status in lactating grey seals.
Environmental Research, 120, 18-26, 2013
- Vanden Berghe, M., Weijs, L., Habran, S., Das, K., Bugli, C., Rees, J-F., Pomeroy, P., Covaci, A. and C. Debier (2012)
Selective transfer of persistent organic pollutants and their metabolites in grey seals during lactation
Environment International, 46, 6-15 (2012)

Presentations

- Bugli, C. Séminaire en statistiques et présentation des logiciels de stat pour les doctorants IREC: 1 séance de 2h, le 17 avril 2013
- Bugli, C. Séminaire en statistiques et présentation des logiciels de stat dans le Pôle de Pneumologie, ORL et Dermatologie: 1 séance de 3h, le 2 juillet 2013
- Bugli, C. et Guillet, A. Midi du smcs: Comment intégrer vos sorties R dans des documents : Le 22 février 2013
- Francq, B. (2012) Prix du challenge Greenfield à ENBIS2012 pour l'ensemble des consultations effectuées par B. Francq pour les chirurgiens de St-Luc (en particulier le prof. X. Banse). Accent mis sur la vulgarisation et sur l'importance de l'utilisation d'un modèle statistique adéquat: 'How to convince surgeons to use a suitable statistical method to solve their problems/questions'
- Gosselain, V. A côté du langage des chiffres, le langage des mots. Introduction aux recherches et analyses qualitatives en sciences humaines, séminaires de statistique appliquée, ISBA, le 30 novembre 2012
- Herman, Benoît ; Olías Lopez, Alba ; Rasse, Catherine ; Raucent, Benoît. Performance assessment of kinematics and control interfaces for laparoscope positioners. 5th International Workshop on Human-Friendly Robotics (HFR2012) (Brussels, du 18/10/2012 au 19/10/2012).
<http://hdl.handle.net/2078.1/120097>
- Herman, Benoît ; Olías López, Alba ; Rasse, Catherine ; Raucent, Benoît. Performance assessment of kinematics and control interfaces for laparoscope positioners. 11th National Day on BioMedical Engineering. (NCBME2012) (Brussels, 07/12/2012).
- Legrand, C. Présentation des activités de formation du SMCS. Table ronde organisée par le Prof. Gilbert Saporta lors du Troisième colloque francophone international sur l'enseignement de la statistique (CFIES 2012, Angers, 12-14 Septembre 2012).
- Legrand C. BCNBP National Day - CLINICAL TRIALS - DSM V - Leuven, Belgique . Clinical trials: statistical approach, le 12/7/2012

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- Pigeon, M. (2012). Evaluation of the EU Proposed Farm Income Stabilisation Tool, Questions spéciales d'économie rurale, Université catholique de Louvain, Louvain-la-Neuve.
- Pigeon, M. Modélisation multivariée des revenus agricoles et évaluation de divers mécanismes assurantiels, Applied Statistics Workshops, Université catholique de Louvain, Louvain-la-Neuve, le 1/3/2013

Poster

- Francq B. et Cartiaux O. (2012) Prix du meilleur poster (avec une brève présentation orale) à ENBIS2012: When the surgeon doesn't cut straight. Delta method and bootstrap in a mixed model to estimate a probability and get its confidence interval.

Supervision

- 2012-2013. Sabrina El Bachiri, UCL, Mémoire en Statistique.
Le modèle conjoint à classes latentes. Théorie et application au cancer de la prostate.
Promoteur: C. Legrand
- 2012-2013. Perceval Sondag, Mémoire UCL.
Utilisation de simulations à événements discrets pour la réalisation d'un projet Lean Six Sigma en milieu hospitalier.
Promoteurs : B. Govaerts et M. Philippe.