



STATISTICAL METHODOLOGY AND COMPUTING SERVICE

Report of Activities
1 September 2013 to 31 August 2014

2013-2014

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Introduction

Introduction	The key elements of our agenda of the next years are therefore:
A year has passed, and we have worked on another 365 consulting projects, taught more than 1000 person-days of courses in statistical software and practice, kept our servers open and running, contributed to several large projects, and participated in a number of grant applications. Moreover, the Big5-Stat initiative to make statistical software more accessible is now fully operational and managed by the central computing service (SGSI). Finally, we completed our team in the area of biostatistics to be able to serve the health sciences sector more efficiently in the future.	<ol style="list-style-type: none">1. Keep up the good service2. Obtain stable financing for the core activities3. Maintain and extend the professional network4. Update the by-laws (ROI) of the service and the composition and working mode of the management committee to reflect the new university requirements for technology platforms and to assure good integration of the service within the university5. Automate accounting, project documentation, and knowledge management6. Provide a stimulating working environment for our team by assuring professional and career development and allowing for a sustainable work-life balance
The current report focuses on the year 2013/2014 but also gives a summary over the three year period 2011/2014, since the co-financing system with the three sectors went into operation. This system is currently again under review and we hope to be able to negotiate a more permanent solution which still guarantees oversight by the sectors while further lowering barriers for researchers to see us on a short notice and with as little bureaucracy as possible.	The SMCS can be proud of what it achieved since its creation, let’s all work together to keep its future bright.
By now, the SMCS has fully deployed the range of activities specified in its mission: consultancy, practical training, assistance in statistical computing, and research collaboration. These activities occur at all three levels: UCL, society, and national and international collaborations.	Enjoy reading, Christian Ritter President of the management committee.
The challenges for the next years are therefore to staff and manage these activities appropriately as well as to maintain and extend our network of partners in the different UCL departments.	
I would like to stress at this point that, although we are operating very much like a small company with tight accounting and customer focus, our primary objective is not to sell commercial services to the outside but to help UCL to conduct research and to deliver services to society in a more efficient way. At the same time, we do accept a limited number of commercial clients in order to develop and maintain our knowledge of the market and our network of contacts.	

News

News

Organization

The management committee (comité de gestion) met three times to discuss strategy and development of the service. The users committees also met in late 2013 and early 2014 but attendance was low. A new way of organizing this exchange is currently under discussion.

Personnel

The SMCS hired a new biostatistician, Sabrina El Bachiri, who mainly work on projects from health sciences (SSS sector) and help with trainings in the related areas.

The part-time percentage of Céline Bugli was raised from 60% to 80% to reflect more accurately her work load which had increased substantially when she joined the team which is responsible for the intensive training in biostatistics organized in collaboration with the FOREM. She is also responsible for the submissions of applications for large projects and collaborations.

Statistical Software

The Big5-Stat initiative is now operated by the central computing service (SGSI) and the SMCS only maintains the role of an observer. Overall, the initiative seems to work well, even though we sometimes receive reports of unusually long waiting times. Most of these cases could be traced back to misunderstandings which should be avoided in the future.

The joint committee on statistical software which brought together members of the SMCS, the SGSI, and the university administration ended in spring 2014. We are still waiting for the final report.

Administration and Miscellaneous

The development of the new database to handle consulting requests and course involvement and related statistics started in spring 2014 and first tests of the training modules are planned in February 2015.

Once in service, this database will be integrated with a newly developed reporting tool and make the routine

and annual reporting of our services a lot faster and efficient.

Our consultant, Catherine Rasse, has become a member of an ethics committee related to experimentation on animals.

People

People

Management and Administration

Director: Nathalie Lefèvre

President of Management Committee: Christian Ritter

Administrative support: Tatiana Regout

Consultants

Céline Bugli

(UCL/IMMAQ/SMCS – 0.8 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’Education, orientation psychologie expérimentale Université catholique de Louvain, Louvain-la-Neuve, Belgique, 1992.

Arnaud Pollaris

(UCL/IMMAQ/SMCS – 1 EFT)

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

People



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

Sabrina El Bachiri (UCL/IMMAQ/SMCS – 1.0 EFT since September 2014)



Main area of activity : Health Sciences Sector (SSS).
Master en Statistique (UCL 2013).

Master in Biomedical Sciences (ULg and ULB, 2011).

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.

People

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)

Aline van Maanen (Institut Roi Albert II - Cancérologie et Hématologie)

Researchers and Research Assistants

Manon Martin

(UCL/IMMAQ/SMCS and ISBA – 1.0 EFT since September 2014)

Masters in Biostatistics, Institut de Statistique, Université catholique de Louvain, Louvain-la-Neuve, Belgium, 2014.



Main activity: Collaboration in a research project on metabolomics (ISBA, ULg) and consultancy in related questions (SSS et SST).

Others

Moreover, 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.

Interns

Sarah Vandepaer, March-May 2014. Participation in consulting activities in the biostatistics area; participation in teaching the ClinET course (BioWin).

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), Maïlis Amico (ISBA), Aurélie Bertrand (ISBA), Céline Bugli (SMCS), Vincent Bremhorst (ISBA), Jonathan Dedonder (IACCHOS), Sébastien Fontenay (IRES), Bernadette Govaerts (ISBA), Alain Guillet (SMCS), Jonathan Jaeger, Nathalie Lefèvre (SMCS), Catherine Legrand (ISBA), Marco Munda (ISBA), Arnaud Pollaris (SMCS), Mathieu Pigeon (ISBA), Catherine Rasse (SMCS), Christian Ritter (ISBA), Eric Rozet (ULg), Sylvie Scolas, Cédric Taverne (ISBA), Nathan Uyttendaele (ISBA), Sarah Vandepaer (SMCS), Aline Van Maanen (Institut Roi Albert II - Cancérologie et Hématologie), Matthieu Van Pachterbeke (SMCS), Grégoire Vincke, Sam Waltener (FUSL), SAS Institute trainers.

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, Lisrel, Stata, NVivo, Excel, Limesurvey).
- Customized trainings for specific audiences (UCL and external). Examples: ‘Analyser la médiation modérée avec SPSS’ (taught by A. Pollaris), ‘Exploration de données et bases de modélisation statistique avec JMP (for GSK Vaccines, Belgium) taught by C. Rasse, ‘R on the cluster’ (in collaboration with CISM) taught by N. Uyttendaele, Initiation aux modèles d'équations structurales (SEM) avec STATA taught by A. Pollaris and J. Dedonder. 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: La statistique au service de la recherche, (C. Rasse)
- Smcs is also regularly invited to sessions organized by other entities : Workshop des plateformes technologiques en IREC : "Calcul de taille

d'échantillon pour les essais cliniques (C. Bugli), Applied statistics workshops : "La perception du monde des télécommunications: réalisation d'une enquête grand public demandée par l'IBPT": (C. Bugli, M. Vanpachterbeke), Séminaire pour les chercheurs de IACCHOS, IL&C, IPSY et ISPOLE:Comment bien mener la récolte et l'analyse de ses données de recherche à l'UCL ? (J. Dedonder et N. Lefèvre), Journée d'études sur le thème «Le transfert des savoirs issus de la recherche vers le monde du travail par la formation continue universitaire»: Présentation de l'implication du SMCS dans un projet de formation continue (Formation en analyse de données et statistiques pour la recherche et développement dans la bioindustrie) (C. Bugli).

Table 1 shows that the SMCS taught 31 courses in the academic year 2013/14 for a total of 95.5 teaching days. The strong increase in the number of days comes from a single course of 32 days (BioInformatics) which is given as a part of a FOREM training package. This course required a high time investment but also allowed to assemble a series of new course modules which can now also be used for UCL members.

	2011/12	2012/13	2013/14
Courses	28	36	31
Course Days	71.5	67.5	95.5
Participants UCL	338	422	297
PersonDays UCL	587	710	574
Participants Ext	83	110	122
PersonDays Ext	383	243	634

Table 1. Global statistics on SMCS trainings.

Table 2 shows some fluctuations with respect to the number of participants from the three sectors.

	2011/12	2012/13	2013/14
SSH	108	177	135
SSS	39	67	38
SST	124	101	47
Master's Students	65	76	76
Other	85	111	123

Table 2. Number of participants per sector.

In general, the participation of members from the health sciences sector (SSS) is still lower. This is related to several issues. First, many of the courses are held at the Louvain-la-Neuve location whereas many members of the health sciences sector work at the Woluwe location. Second, many of the members of the health sciences sector have duties related to the hospital care. This makes it more difficult to attend courses stretching over several days. We shall explore alternatives to the current way of organizing trainings and will again offer some of the trainings at Woluwe.

Table 3 (SSH) shows that the statistics training program reaches the entire sector.

SSH	2011/12	2012/13	2013/14
Total	122	210	174
IPSY-PSP	25	52	34
IACCHOS-ISPOLE-ESPO	48	68	47
ILSM-LSM	9	8	18
IMMAQ	12	34	15
JURI-DRT	1	0	5
RSCS-TECO	0	1	1
ILC	13	11	15
INCAL-FIAL	0	3	0
Masters students	14	33	39

Table 3. Origin of participants from the humanities sector (SSH).

Table 4 (SSS) confirms the wide reach of the SMCS trainings into the entire sector including its administration.

SSS	2011/12	2012/13	2013/14
Total	51	74	40
IREC-MEDE-FSM	8	28	9
IRSS-FSP	7	20	9
IONS	11	3	8
LDRI-FASB	5	4	7
DDUV	1	1	2
ASS	1	0	1
Cliniques	3	11	2
Masters students	15	7	2

Table 4. Origin of participants from the health sciences sector (SSS).

Table 5 (SST) shows some decrease in participation from the institutes ELI and ISV which accounted for the

highest participations in the academic years 2011/12 and 2012/13. The very high numbers in the two earlier years may be related to a large latent need which was then fulfilled. For 2014/15, we expect that a considerable number of those doctoral researchers trained earlier will have finished their theses and that a new generation of researchers will again need training. So, we should see a renewed increase in the numbers either in 2014/15 or in the following year.

SST	2011/12	2012/13	2013/14
Total	160	146	82
AGRO	0	9	6
ELI	81	42	22
EPL	0	1	0
ICTEAM	7	4	6
IMCN	0	3	0
IMMC	5	1	0
ISV	29	13	8
LOCI	2	17	1
SC	0	11	4
Masters students	36	36	35

Table 5. Origin of participants from the science and technology sector (SST).

Overall, the training activity of the SMCS occupies about 2 full time equivalents of personnel. Half of this effort is directly oriented towards the UCL research and teaching units, the other half towards external clients, such as the FOREM, BioWin, BioPhare, and some private enterprises and public administrations.

The trainings given to external clients fulfill two objectives. First, they are a part of our service mission to society. Second, they allow us to develop new course modules for internal use, such as the FOREM training which allowed us to assemble an entire course cycle in the area of bio-informatics. These course modules can then be very interesting for members of the life and health sciences groups in either SST and SSH.

Finally, members of the SMCS are occasionally participating in sessions of the course on statistical consulting (LSTAT3220) where they tell the students about their career path and their way of working. This is well appreciated by the students who can find out more about what it is like to be a statistician in practice.

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 6. Origin of consulting projects

Client split	2011/12	2012/13	2013/14
Research	325	339	261
Master's projects	78	81	86
External clients	15	7	9
Other*	9	10	9
Total	427	437	365

* Central services, Académie Louvain, etc.

From 1 September 2013 to 31 August 2014, the SMCS worked on 365 projects (437 in 2012/13) of which 356 came from UCL (429 in 2012/13). The numbers fluctuate from year to year. 2012/13 had an unusually high number of smaller projects. As expected, most of the projects concerned university research. Some larger projects involving the university administration and external clients are shown in the section Larger Projects.

The following tables present the breakdown of the origins of the projects in the three university sectors. They show clearly that the SMCS services reach almost all areas of research at UCL.

Table 7 (SSH) shows that the number of request from the humanities sector fluctuates around 170 requests per year. As in previous years, the institute and the school of

psychology had by large the highest share. This is why these units employ a 50% statistical advisor (Nathalie Lefèvre, who in the remainder of her time acts as the managing director of the SMCS). Also IACCHOS has an internal specialist for data matters (Jonathan Dedonder) who is associated member of the SMCS. Besides these two subject areas with particularly high activity, requests came from almost all units of the sector, including law and theology. Only the institute for philosophy has not yet requested assistance from the SMCS.

Table 7. Origin of consulting requests from the humanities sector (SSH).

	2011/12	2012/13	2013/14
SSH	166	190	159
IPSY-PSP	119	112	97
IACCHOS-ISPOLE-ESPO	20	29	28
ILSM-LSM	10	12	11
IMMAQ	5	10	4
JURI-DRT	2	3	2
ILC-INCAL-FIAL	10	23	14
RSCS-TECO	0	1	3

Table 8 (SSS) shows that on average there are a bit more than 100 requests per year from the health sciences sector. The areas related to clinical research and the medical school account for about 60% of this, IRSS and IONS for most of the remainder. Requests from the drug research institute and the De Duve institute were less frequent. Finally there were some requests from FASB, the sector administration and from St Luc's hospital.

Table 8. Origin of consulting requests from the health sciences sector (SSS).

	2011/12	2012/13	2013/14
SSS	90	126	101
IREC-MEDE-FSM	49	70	65
IRSS-FSP	8	17	13
IONS	19	21	9
DDUV	1	5	2
LDRI	4	3	5
FASB	7	1	4
ASS	2	4	1
Hôpital St Luc	0	5	2

Finally, Table 9 (SST) shows that the year 2011/12 had an exceptionally high number of requests and that 2012/13 and 2013/14 were at a similar level. The high number of requests in 2011/12 may be related to the start of the on-site office hours of Catherine Rasse and to the associated meetings and presentations. At the same time, a very high number of members from the ELI and ISV institutes participated in courses on statistical software and methodology. We therefore think that after 2011/12 more members in these institutes became sufficiently familiar with statistical approaches that they did not need support after that. In addition to this, a new mode of co-financing of consulting services via the institutes went into application which may have led some researchers to shy away from seeking advice from the SMCS.

Table 9. Origin of consulting requests from the science and technology sector (SST).

	2011/12	2012/13	2013/14
SST	149	108	93
SST/ELI	69	50	45
SST/ISV	45	25	29
SST/ICTEAM	4	3	2
SST/IMMC	4	7	1
SST/IMCN	1	5	3
SST/LOCI	3	2	0
SST/AGRO	18	10	6
SST/EPL	1	1	1
SST/SC	4	5	6

Some projects also originated from the central administration and other university units.

Overall, the SMCS treats on the order of 400 consulting requests per year. The average duration per consulting request is about 4 hours. This relates to an approximate work load of 1600 consulting hours. A typical consulting hour corresponds to about 1.5 to 2 real hours which means that the consulting activity currently occupies about 1.5 EFT of the SMCS team. Approximately 1 EFT of this is related to the basic consultancy service, the remainder to requests which take longer and which are commonly funded separately, either by UCL researcher and administrators or by external clients.

The statistics shown above do not concern large scale external projects documented in later section of this report.

Servers and Statistical Software

The SMCS maintains two servers, a statistical computing server and a software sharing server for smaller or single user. Moreover the SMCS works together with the SGSI on several activities to reduce barriers to using appropriate statistical software for university members.

Statistical Computing Server

Our performance server is a dual Intel Xeon X5675 processor based system with 96 GB of RAM and rapid (SAS) disks for a total of 2100 GB. Moreover, a Tesla GPU cards C2075 is available for highly parallelized linear algebra calculations. This server system and its storage are hosted by the CISM (UCL high performance computing platform) who is in charge of the operating system and the user management. The SMCS takes care of the statistical software on these machines. Currently, SAS, R and Stata-MP are available. The system is scheduled for renewal in fall 2015.

The statistical computing server was mainly used by people from IMMAQ, ELI and IRSS (the table 4 provides more details about the users of the two servers). Users may be divided in two categories: people who want to SAS for free in the big5-stat project and people in need of a high performance computer mainly for the three installed software packages (large RAM and multi-processors version). The average CPU charge was 20% on smcs1 and 20% on smcs2 with both spikes (about 100%) 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.

Software Sharing Server

Our second system 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 48 users (42 from SSH and 6 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 statistical software for their own use and for the benefit of others.

The hardware for this server is also scheduled for replacement in 2015.

Available Software

Via the Big5-STAT initiative, any UCL member can request the installation of or the access to one or several of the five most used statistical software packages, R, JMP, SAS (via Enterprise Guide), SPSS, and STATA. The request should be made via the central computing service desk 8282. In case of hardware incompatibility, there is a solution via a web portal (Ucilla).

High performance solutions in SAS, R and Stata (multi-processor) are available on the statistical computing server.

Finally, the software sharing server currently hosts HLM, Lisrel, MPlus, nQuery 2.0, PASS, UCINET. Furthermore, an installation NVivo is currently undergoing tests.

The access conditions and procedures for the statistical computing server and the software sharing server are available under the Serveurs tab of our official web page www.uclouvain.com/smcs.html.

Usage Statistics

Table 10. Users of the statistical computing server.

User origin	2011/12	2012/13	2013/14
Total	63	106	105
SSH	32	51	50
IACCHOS	4	4	5
ILC		1	2
ILSM	2	4	2
IMMAQ	16	32	34
IPSY-PSP	10	10	6
ISPOLE			1
SSS	13	21	21
DDUV	1	1	
IREC	3	4	6
IRSS	9	16	15
LDRI			
IONS			
SST	18	34	34
SST/ELI	16	27	21
SST/EPL		1	2
SST/ICTEAM			2
SST/IMCN			1
SST/IMMC		1	1
SST/IRMP		1	1
SST/ISV	2	4	5
SST/LOCI			1

Table 11. Users of the software scharing server.

User origin	2011/12	2012/13	2013/14
Total	32	38	48
SSH	29	33	42
IACCHOS	2	3	4
ILC			
ILSM		1	1
IMMAQ	8	9	10
IPSY-PSP	19	20	26
ISPOLE			
SSS	3	5	6
DDUV			
IREC	2	2	2
IRSS		2	3
LDRI	1	1	1
IONS			
SST	0	0	0

Larger Projects

Larger Projects

IBPT

During the academic year 2013/14, the SMCS finished its work on a three year contract with the Belgian telecommunications regulator IBPT-BIPT. The objective of this project was to survey the Belgian population about their knowledge about the Belgian telecommunications market and in particular to which extend they were aware of favorable offers and on ways to switch service providers.

During this project, the SMCS joined forces with a small survey company to develop questionnaires in French and Dutch, prepared the sampling frame, worked with the Belgian National Register of Persons to send out the questionnaires and collect the answers, used OCR to acquire the data, tabulated the results and submitted annual reports to the client (the reports are publicly available at the web site www.ibpt.be).

The IBPT project corresponded to an effort of about 0.3EFT during the duration of the project.

The interest of participating in this collaboration was to gain practical experience in the entire survey process and to learn more about the Belgian telecommunications market.

Erasmus+OLS

In Spring 2015, the SMCS became partner in the European project Erasmus+OLS. It is a seven year project to provide on-line language support to several hundred thousand participants of Erasmus+ programs. The language support consists of a testing platform to determine the level in the work language of the host institution at the beginning and the end of the stay and of an on-line learning platform.

Our role in this project is to monitor the performance of a progressive on-line test (a test in which the difficulty of later questions depends on the answers to earlier ones), to assist in the design and realization of customer satisfaction surveys, to facilitate communication of performance statistics, and to provide expertise to the scientific committee.

We expect an average involvement of 0.3-0.5 EFT over the duration of the project.

Survey Methodology and Logistics

We are also partners in the “Survey Project.” In collaboration with our associated consultants in the Humanities Sector we determined that insufficient support was available for researchers carrying out surveys. We therefore participated in submitting a proposal to prepare training modules and to purchase a set of tablet computers which can be used by interviewers.

By providing adequate methodology and technology taking the specific needs of types of research into account (high quality sampling for demographers, special instrumental questionnaires for psychologists, etc.) this project helps new researchers avoid common pitfalls.

The “Survey Project” is an example of how a service such as the SMCS can help identify cross disciplinary needs and assist in creating joint approaches for dealing with them.

Metabiose

In collaboration with ISBA, the SMCS participates in a research consortium on Metabolomics (Metabiose). In this consortium, a research group at the University of Liège is responsible for the medical and analytical aspects and the ISBA/SMCS works on the data analysis and interpretation methodology. For this purpose, the ISBA/SMCS hired a research assistant to work at the SMCS offices. This arrangement assures that the researcher has a suitable work environment including computing assistance and resources and that the SMCS can benefit from the acquired know-how with respect to analyzing OMICS data.

FOREM (Bio Informatics)

Since 2011/12, the SMCS provides a course program in Bio-Informatics for the Walloon career center, FOREM. This course is aimed at people who have degrees in the bio-sciences but who are having problems in finding a suitable job. Originally, the course volume was 19 days. It

Larger Projects

has since then increased to 32 days (corresponding to more than 200 hours of lectures and accompanied exercise sessions). The results are quite encouraging as most of the former participants are quickly finding interesting work. Since the volume of this course is substantial, we are submitted a proposal to associate an accredited certificate with it. Moreover, the course modules developed for this training program will be made available to UCL researchers.

BioWin

The SMCS is also providing shorter course modules in the context of the BioWin initiative of the Walloon government. This type of collaboration is currently under revision due to budget constraints. This will probably mean that our trainings will no longer be viable as exclusive sessions for government sponsored job seekers. We will therefore try to open them up to a larger public while reserving a certain number of places for participants sent by BioWin.

Horizon 2020

The SMCS was a partner in writing several grant applications within the Horizon2020 framework of the European Union. These proposals were submitted during the academic year 2013/14. Unfortunately, at the time at which this report was written (January 2015), news was received that only very few projects overall were accepted and that the ones to which the SMCS provided input were not.

As far as we know, these project proposals were not rejected due to lack of expertise but because the granting authority considered them not sufficiently innovative at a large scale. This means that we will have to learn more about the scopes of intended calls for projects in order to decide better which collaborations we would like to get involved in.

Preparing our part in one project proposal easily takes several work days and we have to assure that we either receive funding for our effort or that the probability of winning the grant is sufficiently high.

BSS2014

Last but not least, the SMCS joined ISBA in organizing the 2014 annual meeting of the Belgian Statistical Society. SMCS members participated actively in the local organizing committee, contributed significantly to a new and innovative format of the conference, helped with selecting the poster presentations, and established links with the FLAMES organization in the Flemish region.

Your Project?

As you can see from the above discussion, we are prepared and ready to become partners in research projects and grant applications. Don't hesitate to contact us.

We can provide an early estimation of the amount of statistical work needed in the project, plan important stages of this work, and give an outline of the statistical methodology which would be employed.

The advantages of involving us in the early stages include a more thorough study design, efficient allocation of resources and methodologies, and data which are easier to analyze and interpret.

The benefits are higher research efficiency and more credibility towards the granting authorities and scientific journals.

Appendix

Appendix

2013-2014

List of Trainings

- Initiation aux modèles d’équations structurales avec Lisrel, les 25 juillet, 8, 14, 22 août et 4 septembre 2013 (A. Pollaris)
- Pratique de la statistique avec SPSS, du 2 au 6 septembre 2013, de 9h30 à 12h30 (N. Lefèvre et J. Dedonder)
- Introduction to R language, du 9 au 11 septembre 2013, de 9h30 à 15h30 (A. Guillet et V. Bremhorst)
- Formation SAS: programmation de base, les 15 et 29 octobre 2013 de 9h à 17h (Formateur SAS institute)
- Formation en analyse de données et statistiques pour la recherche et le développement dans la bioindustrie (en collaboration avec le Forem Formation Biotechnologie à destination des demandeurs d'emploi), de octobre à décembre 2013, de 8h45 à 17h00 (C. Bugli, C. Rasse, B. Govaerts, J. Jaeger, J. Ambroise, E. Rozet)
- Data management and analysis using Stata, du 21 au 25 octobre 2013, de 9h30 à 12h30 (S. Fontenay et A. Guillet)
- Initiation au logiciel Nvivo, les 4 et 7 novembre 2013, de 9h30 à 12h30 (J. Dedonder et N. Lefèvre)
- Publishing your work as an R package, le 13 novembre 2013 de 9h à 12h30 (Ch. Ritter)
- Plans d'expérience avec JMP (en collaboration avec Biophare), les 18, 19 et 25 novembre 2013, de 9h à 17h (B. Govaerts et C. Rasse)
- R on the cluster (en collaboration avec le CISM): 1 demi-journée, de 14h à 17h, le 21 novembre 2013 (N. Uyttendaele)
- Training program in Clinical Study - Biostatistics (Cours ClinET - Biowin), du 26 au 28 novembre 2013, de 9h à 17h (C. Bugli, A. Van Maanen et M. Munda)
- Analyser la médiation modérée avec SPSS, le 12 décembre 2013, de 9h30 à 17h (A. Pollaris et N. Lefèvre)
- Introduction à la réalisation d'enquêtes en ligne avec LimeSurvey, le 17 décembre 2013, de 9h à 17h30 (S. Waltener et M. Van Pachterbeke)
- Cours d'initiation à SAS pour les chercheurs, du 16 au 20 décembre 2013, de 9h30 à 12h30 (C. Bugli et M. Munda)
- Pratique de la statistique avec SPSS, du 6 au 10 janvier 2014, de 9h à 13h (N. Lefèvre et J. Dedonder)
- Cours d'initiation au langage R, du 13 au 17 janvier 2014, de 9h30 à 12h30 (A. Bertrand et V. Bremhorst)
- Analyse multivariée avec Rcommander, les 27 et 28 janvier 2014, de 9h à 17h (C. Taverne et M. Van Pachterbeke)
- Initiation au logiciel Nvivo, les 3 et 6 février 2014, de 9h30 à 12h30 (J. Dedonder et N. Lefèvre)
- Formation SAS : SAS advanced programming: 5 journées, 17 et 24 février 2014, 10, 17 et 24 mars 2014 (Formateurs SAS Institute)
- Initiation aux modèles d'équations structurales (SEM) avec STATA, du 17 au 21 mars 2014, de 9h30 à 12h30 (A. Pollaris et J. Dedonder)
- Gestion et analyse des données avec Stata / Data management and analysis using Stata, du 7 au 11 avril 2014, de 9h30 à 12h30 (S. Fontenay et A. Guillet)
- Initiation à Limesurvey 2, le 14 mai 2014 (M. Van Pachterbeke)
- Training program in Clinical Study - Biostatistics (Cours ClinET - Biowin), du 6 au 8 mai 2014, de 9h à 17h (C. Bugli et S. Vandepaer)
- Plans d'expérience avec JMP(en collaboration avec Biophare), les 8, 9 et 12 mai 2014, de 9h à 17h30 (C. Rasse)
- Introduction aux modèles multi-niveaux avec SPSS, les 19, 20, 21 et 22 mai 2014, de 9h30 à 12h30 (M. Pigeon et A. Bertrand)

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- Introduction aux modèles mixtes avec SAS (en collaboration avec Biophare), les 26 et 27 mai 2014, de 9h à 17h30 (M. Pigeon, C. Bugli, C. Rasse)
- Utilisation avancée du logiciel Nvivo, du 26 au 27 mai 2014, de 9h30 à 12h30 (J. Dedonder)
- Cours d'initiation au langage R, du 2 au 6 juin 2014, de 9h30 à 12h30 (A. Guillet)
- Pratique de la statistique avec SAS/Enterprise Guide, du 16 au 18 juin 2014 - le lundi de 09h à 12h et de 13h à 16h, le mardi de 09h à 12h et le mercredi de 09h à 12h et de 13h à 16h (N. Lefèvre et C. Bugli)
- Exploration de données et bases de modélisation statistique avec JMP (en collaboration avec Biophare à destination de GSK), les 23 et 24 juin 2014, de 9h à 17h (C. Rasse)
- Exploration de données et bases de modélisation statistique avec JMP (en collaboration avec Biophare à destination de GSK), les 3 et 4 juillet 2014, de 9h à 17h (C. Rasse)

List of Seminars

- Comment bien mener la récolte et l’analyse de ses données de recherche à l’UCL ? Séminaire pour les chercheurs de IACCHOS, IL&C, IPSY et ISPOLE: le 8 novembre 2013 (J. Dedonder et N. Lefèvre)
- La statistique au service de la recherche, Salle J.-B. Carnoy de 13h à 14h le 30 janvier 2014 (C. Rasse)
- Applied statistics workshops, "La perception du monde des télécommunications: réalisation d’une enquête grand public demandée par l’IBPT": le 14 mars 2014 (C. Bugli, M. Vanpachterbeke)
- Workshop des plateformes technologiques en IREC, "Calcul de taille d'échantillon pour les essais cliniques": le 6 mai 2014 (C. Bugli)
- Séminaire de présentation de l’implication du SMCS dans un projet de formation continue (Formation en analyse de données et statistiques pour la recherche et développement dans la bioindustrie): Journée d’études sur le thème «Le transfert des savoirs issus de la recherche vers le monde du travail par la formation continue universitaire», le 10 octobre 2013 (C. Bugli)
- JMP live demo: Getting Started and Tips&Tricks. Le 4 octobre 2013 (Dr Volker Kraft, JMP Academic Ambassador)

Appendix

Publications and Presentations by SMCS members in 2013-2014

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

Heuskin, Stéphanie(Auteur) Vanderplanck, Maryse (Auteur) Bacquet, Paul(Auteur) Holveck, Marie-Jeanne(Auteur) Kaltenpoth, Martin (Auteur) Engl, Tobias (Auteur) Pels, Christophe(Auteur) Taverne, Cédric(Auteur) Lognay, Georges (Auteur) Nieberding, Caroline (Auteur) (2014) Expanding Lepidopteran chemical communication: cuticular compounds indicate body part, sex and age in a butterfly, in *Frontiers in ecology and evolution*.

David Ogez, Philippe de Timary, Martine Berlière, Leila Rokbani, Maud Colmant, Frédérique Lieutenant, Guillaume Gascard, Catherine Denoel, Aline van Maanen, Emmanuelle Zech (2014). Expectations of Patients with a Diagnosis of Breast Cancer When Meeting the Psycho-Oncologist: Beyond the Assistance of the Oncologist. *Open Journal of Medical Psychology*, 2014, 3, 315-324

M. Napolitano, G. Vaz, T.M. Lawson, M.-A. Docquier, A. van Maanen, T. Duprez, C. Raftopoulos. Glioblastoma surgery with and without intraoperative MRI at 3.0T. *Neurochirurgie* 60 (2014) 143–150.

Marc Van Den Eynde, Ha Molinh Le, Christine Nyiraneza, Alex Kartheuser, Roger Detry, Yves Humblet, Daniel Leonard, Christophe Remue, Karin Dahan, Aline Van Maanen, Anne Jouret-Mourin, Christine Sempoux. Restricted overexpression of p53 in immunohistochemistry (p53IHC RO) is prognostic after colorectal cancer (CRC) resection. *J Clin Oncol* 32, 2014 (suppl; abstr e14602).

Berlière, Martine(Auteur)Duhoux, François(Auteur)Dalenc, Florence(Auteur)Baurain, Jean-François(Auteur)Delle Vigne, Laurence(Auteur)Galant, Christine(Auteur)Van Maanen, Aline(Auteur)Piette, Philippe(Auteur)Machiels, Jean-Pascal(Auteur) 2013 Correction: Tamoxifen and Ovarian Function. *PLoS One* — Vol. 8, no.10, p. 1 (2013)

Marie Bayot, Gordy Pleyers, Ilios Kotsou, Nathalie Lefèvre, Disa A. Sauter, and Nicolas Vermeulen (2014). Joint effect of alexithymia and mood on the categorization of nonverbal emotional vocalizations. *Psychiatry Research*, 2014 May 15;216(2):242-7.

Carvalho JC, Silva EF, Vieira EO, Pollaris A, Guillet A, Mestrinho HD. Oral Health Determinants and Caries Outcome among Non-Privileged Children. *Caries Research*. 2014 Jun 5;48(6):515-523

Tromme I, Devleesschauwer B, Beutels P, Richez P, Leroy A, Baurain JF, Cornelis F, Bertrand C, Legrand N, Degueudre J, Thomas L, Legrand C, Lambert J, Haagsma J, Speybroeck N. Br J Dermatol. 2014 Jul 12. doi: 10.1111/bjd.13262. [Epub ahead of print] * Health related quality of life in melanoma patients expressed as utilities and disability weights.

Presentations

Wanet, Delor, Remouchamps, Goossens, Lee, Janssens, Hanin, Van Maanen, Geets (08fev2014). An individualized radiation dose escalation trial in non-small cell lung cancer, based on FDG-PET imaging. *BHPA 2014* (Link :http://2014.bhpa.eu/wp-content/uploads/formidable/Wanet_Marie.pdf).

Lê HM, Nyiraneza C, Jouret-Mourin A, Kartheuser A, Detry R, Dahan K, Van Maanen A, Sempoux C, Van den Eynde M. Restricted overexpression of p53 is prognostic after colorectal cancer (CRC) resection. *X XVI t h • BELGIAN WEEK OF GASTROENTEROLOGY •DOLCE, LA HULPE, FEBRUARY 12-15, 2014*. oral communication.

La statistique au service de la recherche, Salle J.-B. Carnoy de 13h à 14h le 30 janvier 2014 (C. Rasse)

Appendix

Christian Ritter. ‘Society of Losers (of knowledge)’ as a contribution to the discussion of the paper on ‘Statistics: A Life Cycle View’ by Ron S. Kennett at the 2nd Stu Hunter Conference, Phoenix AZ, USA, in March 2014,

Posters

Forget P, Berlière M, Dekleermaker A, van Maanen A, Duhoux FP, Machiels JP, Coulie PG, Bouche G, De Kock M. Perioperative ketorolac in high risk breast cancer patients. One-year update of a prospective randomized placebo-controlled trial. *Perioperative Clinical Research: Opportunities for surgical and anaesthetic collaboration*. 28april2014 Joint NIAA & RCS Meeting. London, UK.

Wanet, Delor, Remouchamps, Goossens, Lee, Janssens, Hanin, Van Maanen, Geets (2014). An individualized radiation dose escalation trial in non-small cell lung cancer, based on FDG-PET imaging. *ESTRO 33: PO-0690*, p.276. (Link : http://www.estro.org/binaries/content/assets/pdf-files-and-documents/pdf-events-2013/estro33_abstractbook_webpart2.1.pdf)

Mugdha Deo, Aline Van Maanen, Frank Cornélis, Patrick De Potter, Jean-François Baurain. Long term survival benefit from ipilimumab treatment in metastatic uveal melanoma patients. *Congrès: ASCO 30May-03Jun2014 ASCO Annual Meeting, Chicago,USA, May 30th - June 3rd 2014*.

Ch. de la Kéthulle, A. van Maanen, D.Maiter. Etude des facteurs pronostiques dans une série monocentrique de 45 adénocarcinomes cortico-surrénaliens (ACC). *Congrès Société Française d’Endocrinologie, Lyon. 5-8nov2014* (Link: http://www.congres-sfe.com/abstract_display!fr!!!abstracts!04483a6e-2b3f-1032-b196-61c1a3eebff0!a3053734-4f51-1032-b97b-7ae923ef499e)

Divers

Rasse C. (2013-2014). Participation à la commission d’éthique en matière d’expérimentation animale. Institut des sciences du vivant (ISV). Université catholique de Louvain, Louvain-la-Neuve.

Lefèvre N. & Guillet A. Evaluation et relecture de manuscrits soumis à publication chez de Boeck, dans le domaine des statistiques appliquées aux sciences humaines.

