

## Part I: Personalia

**First Name:** Kristel

**Place of birth, Date:** Dendermonde, 3 June 1969

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## Part II: Study background

### II.1. Study background section A: Obtained master degrees

#### a) Diploma 1:

Master in Exact Sciences; Mathematics  
Ghent University; 28 June 1991  
Grade: summa cum laude

Thesis:

“Inleiding tot de gebouwentheorie.”  
Promotor: Prof Dr H Van Maldeghem

Detailed information:

- This training is useful in giving me a firm foundation to acquire knowledge as a basis for future study and research activities,
- and developing a logical and structural thinking mentality.

#### b) Diploma 2:

Master in Biostatistics  
Hasselt University; 5 oktober 1999  
Grade: magna cum laude

Thesis:

“Analysis of longitudinal, ordinal, categorical, quality of life data with dropout.”  
Promotor: MSc D Curran; Co-promotors: MSc L Collette and Prof Dr G Molenberghs

Detailed information:

- The extensive training in biostatistics gives me the opportunity to translate a purely mathematical background into a practical social engagement.
- Project-driven group assignments during the training are useful in developing skills to enhance team working.
- The apprenticeship is enriching and is a first real exposure to the business community.
- The nature of the student population – the majority were VLIR students from developing countries (this is: in Belgium with a Flemish Inter-university Board grant) – is extremely stimulating to adopt a positive international attitude and mentality.

**II.2. Study background section B: Additional Study Certificates (a selection)**

<b>Diploma or certificate</b>	<b>grade</b>	<b>university</b>	<b>Year</b>
IFRES 6 (séance de base) Un guide pour l'enseignant, un guide pour l'étudiant: l'engagement pédagogique	À suivre en automne	ULg (Belgium)	2010
IFRES 5 Dispensation (tenue compte de ma formation de communication WECOM)		ULg (Belgium)	
IFRES 4 Organisation et évaluation des stages		ULg (Belgium)	2010
IFRES 3 Le titurat pour l'apprentissage par problems et en petits groupes		ULg (Belgium)	2010
IFRES 2 Introductio générale au PBL et au rôle de tuteur		ULg (Belgium)	2010
IFRES 1 Construction et gestion qualité de teste		ULg (Belgium)	2009
Statistical analysis of Networks	Certificate	UCL (Belgium)	2009
Cours : Français		Nationale Handels Academie Antwerp (Belgium)	2008
Continuing medical education: post genome respiratory epidemiology II: an interdisciplinary challenge	Certificate	Cernay-la-Ville (France)	2008
Workshop: Statistical analysis of genetic data in families	Certificate	FaBeR – KUL, (Belgium)	2008
FAMHAP – haplotype frequency estimation and association analysis	Certificate	Rheinische Friedrich-Wilhelms-Universitaet, Bonn (Germany)	2008
Good practice in DNA micro-array analysis	Certificate	Klinikum Großhadern, Munich (Germany)	2007
Erasmus Summer Program; Modules Genetic epidemiology of complex diseases, Introduction to genomics en Searching genes of complex disorders	Certificate	Erasmus Medical Centre Rotterdam (the Netherlands)	2006

SAS JMP genetics course	Certificate	Department of Cardiovascular Diseases – KUL (Belgium)	2006
S.A.G.E. course: statistical analysis for genetic epidemiology	Certificate	Department of Cardiovascular Diseases – Catholic University Leuven (Belgium)	2006
37th International training workshop on the use of GelCompar II and Bionumerics	Certificate	Applied Maths headquarters in Sint-Martens-Latem (Belgium)	2006
Doctoral Training: medical science	Certificate	Antwerp University (Belgium)	2005
Biotechnology Project Management	A+	Harvard Extension School – Massachusetts Biotechnology Council (USA)	2005
Short course: Mathematical approaches to the analysis of complex phenotypes	Certificate	The Jackson Laboratory Bar Harbor – Main (USA)	2003
Short course: Bayesian hierarchical modelling using WinBUGS, IBCConf	Certificate	Universität Freiburg (Germany)	2002
Advances in population-based studies of complex genetic disorders	Certificate	Erasmus Medical Centre Rotterdam (the Netherlands)	2001
Course: module 2: Bio-informatics	Certificate	ICES University Ghent (Belgium)	2001
Course: module 1: Bio-informatics	Certificate	ICES University Ghent (Belgium)	2001
WECOM: training in scientific communication: written communication	Certificate	Limburg University Centre Hasselt (Belgium)	2001
WECOM: training in scientific communication: oral communication	Certificate	Limburg University Centre (Belgium)	2001

Advances in population-based studies of complex genetic disorders	Certificate	Erasmus Medical Centre Rotterdam (the Netherlands)	2001
Course: Handling Non-response	Certificate	ESRC university Southampton (United Kingdom)	2000
Workshop: Statistical Inference	Certificate	University Hasselt (Belgium)	2000
Workshop sensitivity analysis for incomplete data	Certificate	Biostatistical center de K.U.Leuven, LUC et university Gent (Belgium)	2000
Workshop: Statistical analysis of discrete structures	Certificate	Institut für Statistik Munich (Germany)	2000
Multivariate Statistics in Practice	Certificate	Groningen University (the Netherlands)	1997
Computerintensive Methods in Statistics; Density Estimation, Smoothing in a S+ Environment	18/20	Hasselt University (Belgium)	1997

#### Detailed information

- During the period 1997-1999 the emphasis mainly lies on gaining in-depth scientific biostatistics knowledge. Persistent training is necessary to surpass a simple executive function as a biostatistician. It enables me to closely follow the trends and evolutions in my discipline and to carry out creative and innovative scientific work.
- This resulted, from 2000 onwards, in a period of self-study. I am feeling scientifically well-prepared to successfully start methodological research in biostatistics. Intense focus within this discipline has the risk of becoming alienated with other disciplines. That is why I choose for a doctoral training beyond the frontiers of pure statistics. For the aforementioned reason I also take a training in scientific communication.
- The invitation to work at the Harvard School of Public Health (2003-2005) as a post-doctoral fellow allows me to make most of my chances to expand my work area. The vivid team spirit, the scientific discussions, enriched personal scientific research lead to a publication in Nature Genetics, despite the methodological nature of its content. At Harvard I also get the opportunity to expand my knowledge in non-statistics disciplines: biotechnology project management.
- From 2006 onwards, the emphasis temporarily is on exploring and mapping new trends and evolutions in Europe, and on proposal drafting and writing. This focus, rather than carrying out pure methodological research to the extreme, is due to my 50% commitment

as a project manager for the Ghent University to the European Network of Excellence GA<sup>2</sup>LEN ([www.ga2len.com](http://www.ga2len.com)) up until the end of 2007.

- 2008 is the start of a bioinformatics tenure track position at the university of Liège. As the only statistician at the department of Electrical Engineering and Computer Science (Montefiore Institute) I formulate the mission to introduce statistical genetics and to start up a multi-disciplinary group that can make significant contributions to disentangle the genetics of complex diseases.

### II.3. Study background section C: In case of a doctorate or special doctorate

a) **Diploma 1:**

PhD in Exact Sciences: Mathematics  
Ghent University; 21 May 1996  
Grade: summa cum laude

Thesis:

“Non-spherical buildings of rank 3.”  
Promotor: Prof Dr H Van Maldeghem

Publications:

- Van Maldeghem H, Van Steen K (1999) Characterizations by Automorphism Groups of Some Rank 3 Buildings IV. Hyperbolic p-adic Moufang Buildings of Rank 3, *Geometriae Dedicata* 75: 115-122.
- Van Steen K (1999) Characterizations by Automorphism Groups of Some Rank 3 Buildings III. Moufang-Like Conditions, *Geometriae Dedicata* 74: 225-240.
- Van Maldeghem H, Van Steen K (1999) Characterizations by Automorphism Groups of Some Rank 3 Buildings II. A Half Strongly-Transitive Locally Finite Triangle Building is a Bruhat-Tits Building, *Geometriae Dedicata* 74: 113-133.
- Van Maldeghem H, Van Steen K (1998) Characterizations by Automorphism Groups of Some Rank 3 Buildings I. Some Properties of Half Strongly-Transitive Triangle Buildings, *Geometriae Dedicata* 73: 119-142
- Van Maldeghem H, Van Steen K (1997) Moufang Affine Buildings have Moufang Spherical Building at Infinity, *Glasgow Math. J.* 39: 237-241

Detailed information

- From a scientific viewpoint the study of fundamental mathematics at this level is a good basis for study and research work in other specialties.
- During my research years in fundamental mathematics I considered it a challenge to convey abstract concepts in a teachable and exciting way to a varied audience. During symposia and workshops it becomes clear that communicative skills are essential in building out a career, independently of the discipline or type of work floor. Under the leadership of my promotor in those days, Prof Dr H Van Maldeghem, the first building stones are laid to canalize and further develop skills in communication.
- The preparations for my first doctoral degree have accentuated my sense of analysis and synthesis, and are essential to nourish an independent and critical attitude.

## b) Diploma 2:

PhD in medical sciences – biomedical science

Hasselt University / Maastricht University; 20 December 2005

Grade: not applicable

Thesis:

“Genomic screening methodology for common diseases and complex traits - Multiplicity and missingness: a statistical hurdle?”

Promotor: Prof Dr G Molenberghs; Co-promotor: Prof Dr NM Laird

### Publications

- Van Steen K, Laird NM, Markel P, Molenberghs G (2006) Approaches to handle incomplete data in family-based association testing. *Ann Hum Genet* 71: 141-151.
- Van Steen K, McQueen MB, Herbert A, Raby B, Lyon H, Demeo DL, Murphy A, Su J, Datta S, Rosenow C, Christman M, Silverman Ek, Laird NM, Weiss St, Lange C (2005) Genomic screening and replication using the same data set in family-based association testing. *Nature Genetics* 37 (7) 683 – 691.
- Van Steen K, Lange C (2005) PBAT: a comprehensive software package for genome-wide association analysis of complex family-based studies (Invited submission) *Journal of Human Genomics* 2 (1): 1-3.
- Van Steen K, Tahri N, Molenberghs G (2004) Introducing the multivariate Dale model in population based genetic association studies, *Biometrical Journal* 46 (2):187-202.

### Detailed information

- An important part of this thesis is the result of my work at the Harvard School of Public Health as a post-doctoral fellow. At this school I am made aware of different English writing styles (European versus non-European) and am given useful comments on increasing the success rate of publications in American and non-American journals. I learn that adopting the correct conventions, etiquette and writing style can severely increase the rate of accepted project proposals.
- A publication is not a private affair. Every manuscript is read by some internal specialists, heavily discussed upon with the authors, provided with comments to increase the value of the publication and only then released for submission in a scientific journal. Corporate thinking brought into practice ...

**A copy of diplomas and obtained certificates can be obtained upon request.**

## Part III: Knowledge and competences in a professional context

### III.1. My curriculum

#### Overview:

Identification employer	Start date	End date	Position	Full time/ part-time %
University of Liège – Dept of electrical engineering	1/1/2008	31/12/2010	Assistant Professor	100
Catholic University of Leuven – Dept of Human Genetics	1/5/2008	30/9/2014	(honorary) guest-professor	10
Ghent University – Dept of Medical Genetics	1/10/2008	30/9/2013	(honorary) guest-professor	5
Ghent University – Dept ORL	1/2/2008	30/9/2010	(honorary) post-doctoral researcher	10
Univeritair Ziekenhuis UZ Ghent; De Pintelaan 185, 5B2, 9000 Ghent	1/1/2006	31/12/2007	Post-doctoral scientific researcher (status: expert) – Project Manager GA <sup>2</sup> LEN Ghent University	50
Ghent University – Dept of applied mathematics and computer science	1/1/2006	31/12/2007	Guest Professor	50
StepGen cvba	26/1/2006	31/1/2010	Co-founder and scientific director	
Ghent University – FP6 project GA <sup>2</sup> LEN	15/6/2005	31/12/2005	Post-doctoral scientific collaborator – Project Manager GA <sup>2</sup> LEN Ghent University	100
Hasselt University - Censtat	1/9/2003	present	(honorary) scientific collaborator	
Harvard School of Public Health – Department of Biostatistics, Boston MA 02115, USA	5/5/2003	31/5/2005	Post-doctoral fellow researcher on statistical genetics	100
Hasselt University (LUC – Censtat)	1/9/1999	31/5/2003	Post-doctoral researcher	100
Hasselt University (LUC – Censtat)	16/5/1999	31/8/1999	Scientific researcher	100
E.O.R.T.C (Quality of Life Unit) – Avenue Mounier 83, 1200 Brussel	16/11/1998	15/5/1999	Fellow statistician	100
Ghent University	1/9/1994 1/2/1992	31/1/1998 31/8/1994	Assistant Geometry	100 50

**III.2. Situating the most important evolutions in my knowledge acquisition related to professional activities mentioned in III.1.**

**a) Know-how 1: Logical thinking**

Research topics in mathematics included:

Affine and Euclidean building theory  
Finite geometry  
Trees  
(Algebraic) Topology

Conclusions in these domains are the result of pure reasoning, starting from a set of basic assumptions. My academic activities as a researcher in fundamental mathematics (from 1/9/1994 to 31/1/1998) mark a period of further development in logical and structural thinking.

Overview 3rd cycle educational training – Orientation Mathematics:

- Training ULBrussel, 10 May 1996 (3 lectures):
- Training RGHent University, 1994-95 (7 lectures).
- **D**(iscrete) **A**(lgebra and) **G**(eometry) –days (1993-1995).
- 3rd cyclus NFWO, KUL-Ghent University: Linear algebraic groups (1992-1993).
- 3rd Cyclus: Buildings UL/Brussel (1992-1993).
- Sommerschule Gebäude. Bielefeld University (Germany) 8-15 September 1991.

Reference:

Prof Dr H Van Maldeghem  
Vakgroep Zuivere Wiskunde en Computeralgebra  
Ghent University  
Galglaan 2  
B-9000 Ghent  
e-mail: [hvm@cage.ugent.be](mailto:hvm@cage.ugent.be)

**b) Know-how 2: Education and development**

Experience at the ULg

*2010-2011*

code	Description	Cycle	# students
EPID0754-1	Introduction à l'épidémiologie génétique EPID0754-A-a 20h Th, 20h Pr	2	4

GBIO0009-1	Bioinformatique GBIO0009-A-a 30h Th, 30h Pr	2	11
GBIO0015-1	A tour in genetic epidemiology GBIO0015-A-a 15h Th, 15h Pr	2	3
MATH0008-2	Introduction au calcul des probabilités et à l'analyse statistique MATH0008-A-b 15h Th, 15h Pr	1	163

2009-2010

code	Description	Cycle	# students
EPID0754-1	Introduction à l'épidémiologie génétique EPID0754-A-a 20h Th, 20h Pr	2	4
GBIO0001-1	Introduction au génie biomédical GBIO0001-A-a 30h Th, 30h Pr	1+2	23
GBIO0009-1	Bioinformatique GBIO0009-A-a 30h Th, 30h Pr	2	11
GBIO0015-1	A tour in genetic epidemiology GBIO0015-A-a 15h Th, 15h Pr	2	3
MATH0008-2	Introduction au calcul des probabilités et à l'analyse statistique MATH0008-A-b 15h Th, 15h Pr	1	163

2008-2009

code	Description	Cycle	# students
ELEN0441-1	A tour in genetic epidemiology ELEN0441-A-a 15h Th, 15h Pr	2	5
EPID0754-1	Introduction à l'épidémiologie génétique EPID0754-A-a 20h Th, 20h Pr	2	7
GBIO0001-1	Introduction au génie biomédical GBIO0001-A-a 30h Th, 30h Pr	1+2	24
GBIO0009-1	Bioinformatique GBIO0009-A-a 30h Th, 30h Pr	2	16
GBIO0015-1	A tour in genetic epidemiology GBIO0015-A-a 15h Th, 15h Pr	2	2

2007-2008

code	Description	Cycle	# students
GBIO0001-1	Introduction au génie biomédical GBIO0001-A-a 30h Th, 30h Pr	2	33

#### Other experience in teaching

- Short course: Genome-wide association studies (with co-teacher Andreas Ziegler – University of Luebeck/Germany) – Brasil (Dec 2010).

- Short course: Gene-gene and gene-environment interactions – An overview of methods and available software, UMCG, Groningen – the Netherlands (8 May 2009)
- Short course: Family-based designs in genetic association studies, UVic – Spain (30 June, 2008).
- University teacher and responsible for courses in statistics (3rd Bachelor Dentistry; Medische Statistiek en Methodologie van Onderzoek, Ghent University, Ghent, Belgium (2006-2008).
- University teacher and responsible for Statistical Genetics, Master of Statistical Data Analysis, Ghent University, Ghent, Belgium (2005-2006; 2007-2008).
- University teacher and/or responsible for modules in statistics (2<sup>de</sup> Bachelor in Mathematics; “Kansrekenen en wiskundige statistiek”, Ghent University, Ghent, Belgium 2005-2008).
- Short course: FBAT/PBAT course in Europe; Institute of Biology, Lille – France (March 30-31, 2005).
- Short course: Using FBAT and PBAT to Analyze Family-Based Association Studies in Genetics; Harvard School of Public Health (HSPH) Boston – VS (January 24-26, 2005).
- Short course: The Analysis of Family Based Association Studies in Genetics; Department of Medical Epidemiology and Biostatistics (MEB) Karolinska Institutet, Stockholm - Sweden (March 24-26, 2004).
- University teaching assignments for different modules in statistiek (Calculus for Statistics, Multivariate Techniques, Statistical Reading) Master of Applied Statistics Program Hasselt University, Diepenbeek, Belgium (1999-2002).
- Assistant for the practical training sessions in “analyse, lineaire algebra en analytische meetkunde”, Bachelor of Science Program, Ghent University, Ghent, Belgium (1993-1997).
- Assistant of introductory summer courses for students in civil engineering, physics, mathematics and informatics: “meetkunde en algebra”, Ghent University, Ghent, Belgium (1992-1996).

#### Realization of supervised self-study and development of didactical tools

I have a shared responsibility in work package WP 1.1. of the Global Allergy and Asthma European Network GA<sup>2</sup>LEN with the Charité (Germany) in particular for the part on e-learning and e-testing. To create an extensive compendium of useful material I worked out new goals for the 4<sup>th</sup> work year of GA<sup>2</sup>LEN on e-learning and e-testing and created the basis for an Instructional Design template to be used for pre- and post-testing knowledge during future GA<sup>2</sup>LEN Allergy Schools.

A reflection of aforementioned activities is highlighted in the publication “Education via E-testing” in GA<sup>2</sup>LEN *News* – Spreading excellence in allergy and asthma, nr 10, devoted to “Creating excellence through education & training” ([http://www.GA2LEN.net/files\\_new/filesPublic/Publication\\_GA2LEN%20News10.pdf](http://www.GA2LEN.net/files_new/filesPublic/Publication_GA2LEN%20News10.pdf)).

#### *Reference éducation:*

Prof Dr J A Thas  
 Vakgroep Fundamentele en Computergerichte Wiskunde  
 Ghent University  
 Galglaan 2 B-9000 Ghent  
 e-mail: jat@cage.ugent.be

*Reference E-learning à GA2LEN:*

Prof Dr T Zuberbier  
Charité - Universitätsmedizin Berlin  
Klinik für Dermatologie, Venerologie und Allergologie  
Charitéplatz 1  
D - 10117 Berlin  
e-mail: torsten.zuberbier@charite.de

During my professional activities I have been giving both basic and specialized courses. Self-study became increasingly important. This explains my search for alternative educational tools that stimulate self-study, but simultaneously allow for fast detection of problems and accurate interaction.

Participation in committees and working groups with respect to education

- Collaboration set up between the University of Maastricht (R Westra) and the University of Liège concerning giving guest-lectures within the corresponding existing bioinformatics programs. Practical start: academic year 2010-2011
- Secretary of the Educational Board – Biomedical Civil Engineering (Ulg; 2008-2009, 2009-2010)
- Member of AIM, Association des Ingénieurs de Montefiore (2008 -)
- Learning from data project: coordination of practical implementation, Hasselt university in close collaboration with University of Maastricht (the Netherlands) 2002

Thesis supervision

*Doctorate*

**Jury/committee member (since 2008)**

- Gaëlle Marenne (CNIO, Spain; student of Nuria Malats and Emmanuelle Génin) ; Topic : CNVs (thesis progress and committee member)
- Carolien Bettens (UA, Belgium); Topic: The genetic architecture of Alzheimer disease: in search of risk factors (jury member, defended 21 October 2010)
- Zhiyang Zhang (GIGA, Liège University); Topic: Marker imputation with low-density marker panels in Holstein cattle (DEA jury member – 2009-2010)
- Hugues Aschard (INSERM, France; student of Florence Demenais); Topic: Analyses multi-marqueurs et multi-phénotypes dans les études génétiques des maladies multifactorielles – exemple de l’asthme dans l’étude EGEA (jury member).
- Michel Journée (Liège University); Topic: Geometric algorithms for component analysis with a view to gene expression data analysis (jury member, defended 4 June 2009).
- Erik Quaeghebeur (Ghent University, Belgium; student of Gert de Cooman); Topic: Learning from samples using coherent lower

previsions — Leren uit monsters met coherente onderprevisies (jury member, defended 23 Jan 2009).

- Vincent Botta (Liège University); Prédiction du risque génétique par apprentissage automatique supervisé dans le cadre des maladies complexes (DEA committee member – 2007-2008)

#### **(Co-)Promotor of doctoral students (since 2006)**

- Jestinah Mahachie (Liège University); Topic: Des méthodes de screening des associations génétiques pour des données complexes et multidimensionnelle.
- Jeroen Huyghe (Antwerp University) ; Topic : Integrating pathways in genomewide analyses.
- Lizzy De Lobel (Ghent University); Topic: Alternative methods to detect gene-gene interactions.
- Peter Konings (Catholic University Leuven); Topic: CNV analysis.

#### **Statistical consultant of doctoral students (since 2004)**

- Marie Joossens (KUL); Topic: Gut microbiota in relation to Crohn's disease. Doctoral thesis defended in 2010.
- Ingrid Arijs (KUL); Topic: micro-array analyses of Crohn patients prior to and after therapy. Doctoral thesis in progress.
- Marieke Pierik (KUL); Topic: Susceptibility to inflammatory bowel diseases and pharmacogenetic predictors of treatment outcome in the Flemish population. Thesis defended in 2006.
- Olga Bijnens (Hasselt University); Topic: Het gebruik van cycloongas en staalgrit bij de "in situ" immobilisatie van metaalgecontamineerde bodems: een statistische benadering. Thesis defended in 2006.

#### *Master*

#### **Jury/committee member (since 2008)**

- Sébastien Roland; Topic: Prioritisation de gènes par ensembles d'arbres de decision. Thesis defended in 2009-2010
- Aline Serteyn; Topic: Wearable ECG-monitor for real-time epileptic seizure detection. Thesis. defended in 2009-2010
- Stéphane Wenric; Topic: Complétion du réseau OMIM par apprentissage automatique. Thesis defended in 2009-2010
- François Ghilain; Topic: Algorithmes de réduction de données transcriptomiques temporelles. Thesis defended in 2008-2009

#### **(Co-)Promotor of master students**

ULg TFE faculty of applied sciences (since 2008)

- Arnaud Blanjean; Topic: Random Jungle for statistical genetics. Thesis defended in 2009-2010

UHasselt Master of Science in Biostatistics

- Dominik Grathwohl; Topic: A Model-Based 40 to 1 Algorithm in Microarray Analysis. Thesis defended in 2002.
- Chris Muller; Topic: The EigenApples Approach. Thesis defended in 2002.
- Mbah Alfred Kubong; Topic: Growth of Dutch PKU Patients. Thesis defended in 2002.

UHasselt Master of Science in Applied Statistics

- He Liang; Topic: Dealing with Discreteness: Confidence Intervals for Difference in Proportions. Thesis defended in 2002.
- Petra Goyens; Topic: Evolution and Effect of Trans Fatty Acids during Pregnancy. Thesis defended in 2002.
- Valerie Poulart; Topic: Checking for proportional hazards assumption in survival studies. Thesis defended in 2002.
- Maarten Borremans; Topic: The comparison of DNA sequences using a Mahalanobis-type distance measure: a sensitivity analysis? Thesis defended in 2001.
- Nahson Sigalla; Topic: Sampling Schemes for Large Units (co-supervisor). Thesis defended in 2001.
- Anthony Gichangi; Topic: Missing data in the health interview survey 1997. Thesis defended in 2000.

### c) **Know-how 3: Communication and knowledge dissemination**

#### Dissemination of research and science

- Via involvement in GA<sup>2</sup>LEN, in particular WP 1.1
- Via research activities
- Via involvement in BioScope-IT, a FlandersBio's Bioinformatics Service Project to reduce the gap between Flemish biotech companies to implement bioinformatics applications.

#### Press reports of scientific research, targeting a non-scientific audience

- Ulg REFLEXIONS interview on "In Utero Smoke Exposure and Impaired Response to Inhaled Corticosteroids in Children With Asthma." Sept 2010
- “ ‘StepGen’ nieuwe spin-off ” (Maandblad Gent Universiteit, June 2008).
- “UGent lanceert nieuwe medische spin-off” (Trends, 17 April 2008).
- “ ‘StepGen’ nieuwe spinoff van de UGent” (UGent Press Release / Technologie Transer, 9 April 2008).
- “Statistical method provides unprecedented look at genetic underpinnings of complex diseases” – appeared in Harvard School of Public Health Press Releases, after an interview by Christina Roache of the HSPH press department with Dr C Lange and myself.
- “Een massa gegevens” - appeared in Knack, Mens & Cultuur 3, nr 28-29, 13 - 26 July 2005. This publication was composed by D Draulans on the basis of a text proposed by myself.

#### Overview 3rd cycle educational training – Orientation Communication

- Advocacy workshop on developing the basic skills of doing advocacy and lobbying work (Miriam Stein, lobbyist with Cooperative Metropolitan Ministries) Newton (USA) 16 May 2005.
- Biotechnology project management, spring term course organised by the Harvard Extension School and the Massachusetts Biotechnology Council, 2005
- Inter-university doctoral training: Wecom – oral and written scientific communication, Hasselt University, 2002.
- Interculturele Communicatietraining, Hasselt University, 6-7 September 2001.

Reference *Biotechnology Project Management*:

Lydia Harris, MGA,  
 Co-Chair of the Project Management Committee,  
 Massachusetts Biotechnology Education Foundation,  
 Massachusetts Biotechnology Council.  
 E-mail: lydia\_harris@massbio.org

**d) Know-how 4: Biostatistics**

Research topics in biostatistics include

During and after my Master training in Biostatistics, I developed interest in the topics:

Coarsening  
 Complex data structures  
 Genetic epidemiology  
 Local influence  
 Missing data mechanisms and handling  
 Multicollinearity  
 Multiple testing  
 Multivariate data model  
 Quality of life data  
 Statistical genetics

Overview 3rd cycle educational training - Orientation Life Sciences:

- ICES Course bio-informatics.  
 Module 1: Ghent University 20 September, 3 October and 11 October 2001.  
 Module 2: Ghent University 26 September, 18 October and 25 October 2001.
- Inference for mixed populations KULeuven 12-13 July 2001.
- Course: Advances in population-based studies of complex genetic disorders, Erasmus Medical Centre Rotterdam (The Netherlands) 26-30 March 2001.
- Course on “Handling Non-response”, Southampton (UK) 17-19 May 2000.
- Course Medical Biology, Hasselt University, February 2000.
- Course Survey Methodology, Hasselt University, January-February 2000.

- SAS course on data step programming and macro writing (P. Meyvisch) EORTC 29 March - 1 April 1999.
- Course: Multivariate Statistics in Practice, Groningen University (The Netherlands) 24-27 November 1997.
- Course: computerintensive methods in statistics (S+ environment) Hasselt University, 1997.

References :

Prof. Dr. Andreas Ziegler  
 Institut fuer Medizinische Biometrie und Statistik  
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 B- 3590 Diepenbeek  
 E-mail: [geert.molenberghs@uhasselt.be](mailto:geert.molenberghs@uhasselt.be)

**e) Know-how 5: Developing a culture of innovation**

I was a co-founder and the scientific director of an SME (2006-2010) that offers service in statistics, in particular in the field of statistical genetics and genetic epidemiology. Since December 2007, this SME has been acknowledged as an official spin-off of the Ghent University. In 2008, StepGen became an official “collaborating centre” to the European EU funded network of Excellence GA<sup>2</sup>LEN.

Building upon the aforementioned expertise, lobbying activities have started in order to found a first-spinoff at ULg.

**f) Know-how 6: Statistical genetics**

Research topics in statistical genetics include

Components analysis  
 FBAT testing  
 Gene-environment interactions  
 Gene-gene interactions and interaction graphs  
 Genetic heterogeneity  
 Genetic imprinting  
 Genome-wide association analysis  
 Kinship and genomic background  
 Multifactor dimensionality reduction strategies  
 Multi-locus or combined group approaches

Noisy or erroneous data handling  
Omics integrated analysis  
Phenocopies  
Population stratification  
Predictive disease models  
Pre-screening algorithms and approaches  
Simultaneous significance assessment  
Winner's curse

### Overview 3rd cycle educational training - Orientation: Life Sciences

- Workshop: Statistical analysis of genetic data in families, Leuven, Belgium, 11-15 August 2008.
- FAMHAP, Bonn, Germany, 6-7 June 2008.
- Good practice in DNA microarray analysis, Munich, Germany, 26-29 November 2007.
- 37th International training workshop on the use of GelCompar II and Bionumerics, Sint-Martens-Latem, Belgium, 25-26 september 2006.
- S.A.G.E. course: statistical analysis for genetic epidemiology; Department of Cardiovascular Diseases KUL, Belgium, 17-20 July 2006.
- SAS JMP genetics course; Department of cardiovascular diseases KUL, Belgium, 21-22 July 2006.
- Erasmus Summer Program at Erasmus Medical Centre Rotterdam (The Netherlands) 7-25 augustus 2006:
  - Genetic epidemiology of complex diseases (Cornelia Van Duijn – Erasmus MC Rotterdam, The Netherlands / Bertram Müller – Max Planck Institute Munich, Germany).
  - Introduction to genomics and bioinformatics (Cornelia Van Duijn – Erasmus MC Rotterdam, The Netherlands).
  - Searching genes of complex disorders (Ben Oostra – Erasmus MC Rotterdam, The Netherlands, André Uitterlinden – Erasmus MC Rotterdam, The Netherlands).
- Course Bar Harbor, 9-15 October 2003 “Short course on mathematical approaches to the analysis of complex phenotypes” , with topics including:
  - Complex trait analysis (Gary Churchill, The Jackson Laboratory) / Introduction to QTL mapping in model organisms (Karl Broman, Johns Hopkins University).
  - A missing data perspective on QTL mapping (Saunek Sen, University of California, San Fransisco).
  - Introduction to human genetic linkage (Josee Dupuis, Genome Therapeutics Corporation).
  - Issues in contemporary human genetic analysis: haplotype maps, bioinformatics tools, and novel statistical tools (Nicholas Schork, Univerisity of California, San Diego).
  - Experimental design for cDNA microarrays (Gary Churchill, The Jackson Laboratory).
  - Gene expression with signature sequencing (Natalie Blades, The Jackson Laboratory).
  - ANOVA methods for microarray analysis (Gary Churchill, The Jackson Laboratory) / Analysis of microarray time course data (Christina Kendziorski, University of Wisconsin).

- Bioinformatics resources for complex traits (Carol Bult, The Jackson Laboratory).

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Fundamental research at Harvard (2003-2005):

Harvard School of Public Health, department of Biostatistics, Boston MA, USA :

start : 05/05/2003  
end: 31/05/2005  
purpose : post-doctoral fellow researcher on statistical genetics

My job involved fundamental research. I was a member of several work groups to expand my know-how:

- Computing Work Group
- Environmental Statistics
- Gene-environment Interactions
- Psychiatric Biostatistics
- Longitudinal Data Working Group
- HIV Working Group

These topics still largely determine my current activities as an advisor or researcher. As an active researcher I mainly focus on genome-wide family-based association tests. The Channing Seminar Series (organizer: Channing Laboratories at Harvard Medical School) are invaluable to translate practical problems into research ideas.

**g) Know-how 7: Corporate thinking**

At an international level I am establishing a network of young European researchers, with different backgrounds, to tackle problems related to gene-environment or gene-gene interactions large-scale screening, and to assess the impact of biological and genetic networks to disease development. It is my strong belief, and the belief of those

in the virtual network, that these type of problems can only be dealt with when gears are shifted and when different viewpoints are merged.

#### **h) Know-how 8: Project management**

During my stay in the US I took the Biotechnology Project Management course at the Harvard Extension School. Whether it is a large or a small project, good management is a determining factor for its success. The course focused on identifying and understanding responsibilities, activities and competences that are required for excellent project management in a biotech environment. Topics included: drug development, regulatory bodies, project life cycle, group structures and leadership, problem solving techniques, communication skills, project monitoring, project closure. During the course of my career I have had ample opportunity to bring theory into practice (for instance, GA<sup>2</sup>LEN, FP7-ICT-2009-6, FP7-HEALTH-2009-2.1.1-3).

#### Overview 3rd cycle educational training - Orientation: Management

- FP7 competitive writing, KUL 2009
- ERC grant applications, KUL 2009
- EU preparatory course ([http://www.e-t-i.be/eu\\_concours.asp](http://www.e-t-i.be/eu_concours.asp)) 2008
- Biotechnology project management, spring term course jointly organized by the Harvard Extension School and the Massachusetts Biotechnology Council, 2005

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### III.3. Activities related to professional knowledge acquisition (other than education)

#### a) Participation at international conferences and symposia

Conference Name	Town	Country	Date	Active Participation
<i>International Biometric Society (IBS)</i>	<i>Florianópolis-SC</i>	<i>Brasil</i>	<i>5-10/12/2010</i>	<i>Accepted proposal for short course</i>
<i>Annual Meeting of the American Society of Human Genetics (ASHG)</i>	<i>Washington DC</i>	<i>USA</i>	<i>2-6/11/2010</i>	<i>Research meetings Vanderbilt team / Poster</i>
<i>Annual Meeting of the International Genetics and Epidemiology Society (IGES)</i>	<i>Boston, Massachusetts</i>	<i>USA</i>	<i>10-12/10/2010</i>	<i>Poster</i>
Capita Selecta in Complex Disease Analysis (CSCDA)	Leuven	Belgium	25-27/08/2010	Organizer
Annual Meeting of the Benelux Bioinformatics Conference (BBC)	Liège	Belgium	14-15/12/2009	Local organizing committee
Annual Meeting Belgian Statistics Society (BSS)	Lommel	Belgium	15-16/10/2009	-
Annual Meeting of the European Society of Human Genetics (ESHG)	Vienna	Austria	23-26/05/2009	Oral
Annual Belgian-Dutch Conference on Machine Learning (BENELEARN)	Tilburg	The Netherlands	18-19/05/2009	Chair
PHOEBE-P3G-BBMRI Annual meeting	Brussels	Belgium	25-27/03/2009	Invited oral
Conference of the Eastern Mediterranean Region of the International Biometric Society	Istanbul	Turkey	10-14/05/2009	-
Hannover Biometric	Hannover	Germany	17-18/03/2009	Invited oral

Colloquium				
Benelux Bioinformatics Conference (BBC)	Maastricht	The Netherlands	16/12/2008	Poster
Meeting of the UK/European Molecular Epidemiology Group (MEG)	Barcelona	Spain	12/12/2008	Poster
Annual Meeting of the American Society of Human Genetics (ASHG)	Philadelphia, Pennsylvania	USA	11-15/11/2008	Poster
Annual Belgian-Dutch Conference on Machine Learning (BENELEARN)	Spa	Belgium	19-20/05/2008	Program committee
Scientific symposium on new methodologies for multi-factorial disease genetics	Malmö	Sweden	3-4/04/2008	Invited oral
AllerGen's 3rd annual research conference	Alberta	Canada	10-12/02/2008	Invited discussant
Annual Meeting Belgian Statistics Society (BSS)	Antwerp	Belgium	19-20/10/2007	-
GA <sup>2</sup> LEN Annual Conference	London	UK	20/04/2007	GA <sup>2</sup> LEN Management Office
World Immune Regulation Meeting - WIRM	Davos	Switzerland	11-15/04/2007	GA <sup>2</sup> LEN Management Office
GA <sup>2</sup> LEN Annual Conference	Berlin	Germany	31/03/2006	GA <sup>2</sup> LEN Management Office
Annual Hawaii International Conference on statistics, mathematics and related fields	Honolulu	Hawaii	16-18/01/2006	Oral
Annual Meeting of the American Society of Human Genetics (ASHG)	Salt Lake City, Utah	USA	25-29/10/2005	-
Annual Meeting of the International	Park City, Utah	USA	23-24/10/2005	Invited oral + 2 GAW (genetic

Genetics and Epidemiology Society (IGES)				analysis workshop) papers
Eastern Mediterranean Region- International Biometric Society Conference (EMR-IBS)	Corfu	Greece	10-12/05/2005	Oral
Annual Meeting of the International Genetics and Epidemiology Society (IGES)	Noordwijkerhout	The Netherlands	11-12/09/2004	Poster
Annual Meeting of the International Genetics and Epidemiology Society (IGES)	New Orleans, Los Angeles	USA	15-16/11/2002	Poster
Annual Meeting of the American Society of Human Genetics (ASHG)	Baltimore, Maryland	USA	15-19/10/2002	Poster
European Mathematical and Genetics Meeting (EMGM)	Sheffield	UK	6-7/04/2002	Poster
Annual Meeting of the American Society of Human Genetics (ASHG)	San Diego, California	USA	12-16/10/2001	Poster
Annual Meeting of the International Genetics and Epidemiology Society (IGES)	Garmisch	Germany	2-4/09/2001	Poster
1st Dutch-Belgian Biometric Conference (BBC)	Centerparcs Erperheide, Peer	Belgium	28-29/05/2001	Poster
Annual conference of the International Society of Clinical Biostatistics (ISCB)	Trento	Italy	4-8/09/2000	Oral
Annual conference of the International Society of Clinical Biostatistics (ISCB)	Heidelberg	Germany	13-17/09/1999	Oral

Legend: *italic* = future conferences with scheduled participation.

## b) Detailed information about scientific announcements

### Announcements at international conferences and symposia

#### *Publications other than articles*

- Arijs I, Quintens R, Lemaire K, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2010) Intestinal mucosal gene expression of endothelial cell adhesion molecules in patients with inflammatory bowel disease and the impact of infliximab therapy. *Journal of Crohn's and Colitis*.
- Arijs I, Quintens R, Lemaire K, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2010) The impact of infliximab therapy on intestinal mucosal gene expression of endothelial cell adhesion molecules in patients with inflammatory bowel disease. *Gastroenterology* 138 (5(Suppl I)): 677.
- Arijs I, Quintens R, Lemaire K, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F and Rutgeerts P. (2010) Intestinal mucosal expression of matrix metalloproteinase and ADAM genes in patients with inflammatory bowel disease and the impact of infliximab therapy. *Gastroenterology*, 138 (5(suppl I)): 677.
- Cleynen I, Mahachie John J.M, Henckaerts L, Van Moerkercke W, Rutgeerts P.J, **Van Steen K**, and Vermeire S. (2010) Molecular Reclassification of Crohn's Disease by cluster analysis of genetic variants. *Gastroenterology*.
- Cleynen I, Mahachie John J.M, Henckaerts L, Van Moerkercke W, Rutgeerts P.J, **Van Steen K**, and Vermeire S. (2010) Molecular Reclassification of Crohn's Disease by cluster analysis of genetic variants. *Gut*
- Jürgens M, Mahachie John J, **Van Steen K**, Schnitzler F, Ballet V, Noman M, Hoffman I, Van Assche GA, Rutgeerts PJ, Vermeire S (2010) Kinetics of C-reactive Protein (CRP) Following Maintenance Infliximab Treatment in Crohn's disease identifies profiles of patients with better outcome *Journal of Crohn's and Colitis*.
- Jürgens M, Mahachie John J, **Van Steen K**, Schnitzler F, Ballet V, Noman M, Hoffman I, Van Assche GA, Rutgeerts PJ and Vermeire S (2010) Kinetics of C-reactive Protein (CRP) following maintenance infliximab treatment in crohn's disease identifies profiles of patients with better outcome. *Gastroenterology* 138 (5 (suppl I)): 686.
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- Arijs I, Van Lommel L, **Van Steen K**, De Hertogh G, Quintens R, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2009) Colonic mucosal expression of barrier genes in patients with inflammatory bowel disease before and after first infliximab treatment. *Journal of Crohn's and Colitis* 3 (1): 3.
- Arijs I, Quintens R, Van Lommel L, **Van Steen K**, De Hertogh G, Van

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- **Van Steen K**, Tahri N, Molenberghs G, (2001) Introduction of the multivariate Dale model in genetic association studies, Supplement to The American Journal of Human Genetics; 69(4): 1289 A403.

*Abstracts – no publication information available*

- Cattaert T, De Lobel L, **Van Steen K** (2010) Using mixed models with a mixture of normal distributions for the random residual effect leads to a fast and powerful genomewide association test –25th International Biometric Conference IBC2010, Florianopolis, Brasil.
- Cattaert T, Mahachie John JM, Van Lishout F, **Van Steen K** (2010) Alternative risk cell definitions based on ranking improve performance of model-based multifactor dimensionality reduction for epistasis detection – IGES 2010
- Cattaert T, Mahachie John JM, Van Lishout F, **Van Steen K** (2010) Alternative risk cell definitions based on ranking improve performance of Model-Based Multifactor Dimensionality Reduction for epistasis detection – First edition of Capita Selecta in Complex Disease Analysis CSCDA2010
- Cattaert T, Calle ML, Dudek SM, Mahachie John JM, Van Lishout F, Urrea V, Ritchie MD, **Van Steen K** (2010) A detailed view on several Model-Based Multifactor Dimensionality Reduction methods for detecting gene-gene interactions in case-control data in the absence and presence of noise – ECCB 2010, Ghent , Belgium
- Cleynen I, Mahachie John JM, Henckaerts L, Van Moerkercke W, Rutgeerts P, **Van Steen K**, Vermeire S (2010) Molecular reclassification of Crohn's

- disease by cluster analysis of genetic variants –First edition of Capita Selecta in Complex Disease Analysis CSCDA2010
- De Lobel L, Thijs L, Kouznetsova T, Staessen J, **Van Steen K** (2010) A Family-based Association Test to Detect Gene-Gene Interactions in the Presence of Linkage –First edition of Capita Selecta in Complex Disease Analysis CSCDA2010
  - De Lobel L, Thijs L, Kouznetsova T, Staessen JA, **Van Steen K** (2010) A Family-Based Association Test to Detect Gene-Gene Interactions in the Presence of Linkage –25th International Biometric Conference IBC2010, Florianopolis, Brasil.
  - Huyghe JR, Van Camp G, **Van Steen K** (2010) Elucidating the Molecular Etiology of Asthma using Genome-Wide Association Study Pathway Analysis. –First edition of Capita Selecta in Complex Disease Analysis –First edition of Capita Selecta in Complex Disease Analysis CSCDA2010
  - Mahachie John JM, Cattaert T, Van Lishout F, **Van Steen K** (2010) Model-Based Multifactor Dimensionality Reduction to detect epistasis for quantitative traits in the presence of error-free and noisy data – IGES 2010
  - Mahachie John JM, Cattaert T, Van Lishout F, **Van Steen K** (2010) A detailed view on model-based multifactor dimensionality reduction with quantitative traits for detecting gene-gene interactions: different ways of adjusting for lower-order effects –25th International Biometric Conference IBC2010, Florianopolis, Brasil.
  - Mahachie John JM, Cattaert T, Van Lishout F, **Van Steen K** (2010) A detailed view on model-based multifactor dimensionality reduction with quantitative traits for detecting gene-gene interactions: different ways of adjusting for lower-order effects. –First edition of Capita Selecta in Complex Disease Analysis CSCDA2010
  - Mahachie John JM, Roll S, Lau S, Lodrup Carlsen KC, Carlsen KH, Kuehni C, Spycher B, Torrent M, Sunyer J, Chen CM, Heinrich J, Arshad SH, Roberts G, Wijga AH, Kerkhof M, Wickman M, Kull I, Eller E, Kramer U, von Berg A, Wahn U, **Van Steen K**, Keil T (2010) Longitudinal study of European birth cohorts on pet ownership up to age 10 years as a risk for childhood asthma - a GA<sup>2</sup>LEN project, ERS, Barcelona, Spain
  - Savenije OEM, Mahachie John JM, Kerkhof M, Postma DS, **Van Steen K** & Koppelman GH (2010) Genetic epistasis in the IL1RL1 pathway and wheezing phenotypes: multinomial MB-MDR analyses–First edition of Capita Selecta in Complex Disease Analysis CSCDA2010 (responsible author).
  - Cattaert T, Urrea V, Calle ML, De Wit V, Mahachie John JM, **Van Steen K** (2009) Unified framework for epistasis detection in (un)-relateds – 5th conference of the Eastern Mediterranean Region of the International Biometric Society IBS 2009
  - Cattaert T, Mahachie John JM, Van Steen K (2009). Selecting multiple epistatic models using MB-MDR. Abstract Book of the Annual meeting of the American Society of Human Genetics 2009,1848
  - De Wit V, Vermeirssen V, Huyghe J, Van de Peer Y, **Van Steen K** (2009) Epistasis detection using MB-MDR, guided by prior biological knowledge – IGES 2009
  - Perez-Alvarez N, Konings P, **Van Steen K**, Nadia T. (2008) Analysis of an outcome beyond a detection limit: Application to HIV RNA data – IBC 2008
  - Van Der Gucht B, Konings P, Rooms J, Van Wanzele F, Pelgrom J,

Verhofstede C, **Van Steen K**, Blot S, Vandekerckhove L, Vogelaers D. (2008) High success rates in virologic suppression in initial HAART regimens: a tool for benchmarking quality of HIV care? – AIDS 2008

- Kogevinas M, Castro-Giner F, de Cid R, Jarvis D, **Van Steen K**, Anto J-M, Wjst M and the ECRHS study group. (2007) Replication of positionally cloned asthma genes in an international population-based cohort study (ECRHS-II). – ERS 2007, Stockholm, Sweden, 17-19 September 2007.
- Willemarck N, Van Poucke M, **Van Steen K**, Maes S, Van Zeveren A, Peelman LJ, (2007) PRNP polymorphisms associated with PRNP mRNA expression in blood in Belgian sheep population. – Prion 2007 congress Edinburgh, 26 - 28th September 2007.

*Selection of oral presentations at international conferences in life sciences – as first author; title of abstract corresponds to title of presentation*

- Unified framework for epistasis detection in (un)relateds, ESHG 2009, Vienna, Austria
- Explaining genetic heritability by interaction analysis? PHOEBE-P3G-BBMRI conference, Brussels, Belgium, 2009, - invited
- Some perspectives on family-based GWAs, 55. Biom. Kolloquium 2009, Hannover, Germany, 2009 - invited
- Perspectives on genomewide association screening in the light of epistasis, Scientific Symposium--New methodology for multi-factorial disease genetics, Malmö, Sweden, 2008 - invited
- Genomic screening in family based association testing using the same data set and the multiple testing problem, 5th annual Hawaii international conference on statistics, mathematics and related fields, Honolulu, Hawaii, USA, 2006.
- Genomic screening in family based association testing using the same data set and the multiple testing problem, 14th annual meeting of IGES, Park City, USA, 2005.
- Genomic screening in family based association testing and the multiple testing problem, 3rd EMR-IBS conference, Greece, 2005.
- Multicollinearity in prognostic factor analyses using the EORTC QLQ-C30: Identification and impact on model selection ISCB 2000, Italy, 2000.
- Sensitivity Analysis of Longitudinal Binary Quality of Life Data with Dropout: An example using the EORTC QLQ-C30; ISCB-GMDS 99, Germany, 1999.

*Selection of poster presentations at international conferences in life sciences – as first author or responsible author; title of abstract corresponds to title of presentation*

- Using mixed models with a mixture of normal distributions for the random residual effect leads to a fast and powerful genomewide association test, IBC, Florianopolis, Brasil, 2010 (responsible author)
- A detailed view on model-based multifactor dimensionality reduction with quantitative traits for detecting gene-gene interactions: different ways of adjusting for lower-order effects, IBC, Florianopolis, Brasil, 2010 (responsible author)
- Model-Based Multifactor Dimensionality Reduction for detecting gene-gene

- interactions in case-control data in the absence and presence of noise, ASHG, Washington, USA, 2010
- Elucidating the molecular etiology of asthma using genome-wide association study pathway analysis, ASHG, Washington, USA, 2010 (responsible author)
  - Model-Based Multifactor Dimensionality Reduction for detecting gene-gene interactions in case-control data in the absence and presence of noise, IGES, Boston, USA, 2010
  - Model-Based Multifactor Dimensionality Reduction to detect epistasis for quantitative traits in the presence of error-free and noisy data, IGES, Boston, USA, 2010 (responsible author)
  - Alternative risk cell definitions based on ranking improve performance of model-based multifactor dimensionality reduction for epistasis detection, IGES, Boston, USA, 2010 (responsible author)
  - A detailed view on several Model-Based Multifactor Dimensionality Reduction methods for detecting gene-gene interactions in case-control data in the absence and presence of noise, ECCB, Ghent, Belgium, 2010 (responsible author)
  - Model-Based Multifactor Dimensionality Reduction to detect epistasis for quantitative traits in the presence of error-free and noisy data, ECCB, Ghent, Belgium, 2010 (responsible author)
  - A family-based association test to detect gene-gene interactions in the presence of linkage (responsible author) IGES, Hawaii, 2009
  - Epistasis detection using MB-MDR, guided by prior biological knowledge (responsible author) IGES, Hawaii, 2009
  - Selecting multiple epistatic models using MB-MDR (responsible author). ASHG Annual Meeting, Hawaii, 2009
  - FAM-MDR: a novel multifactor dimensionality reduction method for interactions. UK-MEG2008, Barcelona, Spain, 2008.
  - MB-MDR based screening to detect high-order genetic interactions in (un-) related individuals. BBC2008, Maastricht, the Netherlands, 2008.
  - FAM-MDR: A flexible method of multifactor dimensionality reduction for high-order genetic interaction in related individuals, ASHG Annual Meeting, USA, 2008
  - Genomic screening methodology for common diseases and complex traits, accepted poster at the Third Seattle Symposium in Biostatistics – statistical genetics and genomics, Washington, USA, 2005.
  - Genomic screening in family-based association testing, IGES Annual Meeting, the Netherlands, 2004.
  - The Multivariate Dale Model and Genetic Associations, ASHG Annual Meeting, USA, 2002.
  - Merits of the Multivariate Dale Model in Genetic Association Studies, IGES Annual Meeting, USA, 2002.
  - Merits of the multivariate Dale model in genetic association studies, EMGM, UK, 2002.
  - Introduction of the Multivariate Dale Model in Genetic Association Studies, ASHG Annual Meeting, USA, 2001.

#### Announcements at other international and national scientific events

##### *Publications other than articles*

- Arijs I, Quintens R, Lemaire K, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2010). Intestinal mucosal gene expression of endothelial cell adhesion molecules in patients with inflammatory bowel disease before and after first infliximab treatment. *Acta Gastro-Enterologica Belgica*
- Cleyneen I, Mahachie John J.M, Henckaerts L, Van Moerkercke W, Rutgeerts PJ, **Van Steen K**, and Vermeire S (2010). Molecular Reclassification of Crohn's Disease by cluster analysis of genetic variants. *Acta Gastro-Enterologica Belgica*
- Arijs I, Van Lommel L, Van Steen K, De Hertogh G, Quintens R, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2009) Colonic mucosal expression of barrier genes in patients with inflammatory bowel disease before and after first infliximab treatment. *Acta Gastro-Enterologica Belgica*.
- Arijs I, Quintens R, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2009) The impact of infliximab therapy on colonic mucosal expression of barrier genes in patients with inflammatory bowel disease. *Acta Gastro-Enterologica Belgica*
- Jürgens M, Schnitzler F, **Van Steen K**, Mahachie J, Ballet V, Noman M, Hoffman I, Van Assche G, Rutgeerts PJ, Vermeire S (2009). Predictive Value of C-Reactive Protein Level Changes On the Long Term Outcome of Infliximab in Crohn's Disease. *Acta Gastro-Enterologica Belgica* D17
- Arijs I, Van Lommel L, **Van Steen K**, De Hertogh G, Ferrante M, Joossens M, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2008) Mucosal gene signatures to predict response to infliximab in patients with inflammatory bowel disease. *Acta Gastro-Enterologica Belgica*, 71: D33
- M Joossens, V De Preter, **K Van Steen**, N Vermeulen, G Huys, K Verbeke, P Vandamme, P Rutgeerts, S Vermeire.( 2008) Long term stability of gut microbiota in Crohn's disease patients compared to healthy relatives. *Acta Gastroenterol Bel*, 71: D73
- Joossens M, Vanhoutte T, De Preter V, **Van Steen K**, Henckaerts L, Huys G, Verbeke K, Vandamme P, Rutgeerts P, Vermeire S (2007). Faecal bacterial DGGE profiles of Crohn's disease patients are different from those of their healthy first degree relatives and matched healthy controls. *Acta Gastroenterol. Bel*,

*Abstracts – no publication information available*

- Arijs I, Quintens R, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2009) TECK and MADCAM-1 mucosal expression in active IBD: the effect of infliximab therapy - submitted for the National Cross-Disciplinary symposium on Immune Mediated Inflammatory Diseases 2009.
- Arijs I, Quintens R, Van Lommel L, **Van Steen K**, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2009) TECK and MADCAM-1 mucosal expression in active IBD: the effect of infliximab therapy. Accepted for oral presentation at the National Cross-Disciplinary symposium on Immune Mediated Inflammatory Diseases, Dolce La Hulpe, March 13 - 14, 2009.
- Cattaert T, Mahachie John JM, De Wit V, **Van Steen K** (2009) Selecting

- multiple epistatic models using MB-MDR –BVS 2009
- Cattaert T, Mahachie John JM, **Van Steen K** (2009). Selecting multiple epistatic models using MB-MDR – submitted for BBC 2009
- Cattaert T, Mahachie John JM, Van Steen K (2009). Selecting multiple epistatic models using MB-MDR – submitted for DYSCO 2009
- Cattaert Tom, Urrea Victor, Calle Malu, De Wit Vanessa, Malats Nuria, **Van Steen Kristel** (2008) FAM-MDR: A method for genetic association studies with epistasis using families –DYSCO 2008
- De Lobel L, **Van Steen K**, De Meyer H, (2007) Alternative methods to detect gene-gene interactions – 15th Annual meeting of the Belgian Statistical Society (BVS) Antwerp, 19-20 October 2007.
- Wark PA, Souverein OW, **Van Steen K**, Van 'T Veer P, (2002) Onderzoeken van etiologische heterogeniteit van kanker met behulp van multinomiale logistische regressie. In: WEON (Werkgroep Epidemiologisch Onderzoek Nederland) 2002, Nijmegen, s.l.

*Selection of oral presentations in life sciences; tile of abstract corresponds to title of presentation*

- Perspectives on Large-Scale Multi-Stage Family-Based Association Studies, UMCG Seminar Series May, Groningen, the Netherlands, 2010 - invited
- From data to statistical analysis: Explaining genetic heritability by interaction analysis, INSERM, Paris, France, 2009 - invited
- Multifactor dimensionality reduction methods: coping with epistasis, Montefiore seminar series (joint presentation with Tom Cattaert) ULg, Liège, Belgium, 2009 - invited
- Interaction analysis in the context of GWAs, UMCG Seminar Series May, Groningen, the Netherlands, 2009 - invited
- Screening strategies to detect genetic interactions and subphenotypes in (un)-related individuals, University Hospital Ghent, Medical Genetics, Ghent, Belgium, 2009 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un)-related individuals, Institut für Medizinische Biometrie und Statistik, Universitaet zu Lübeck, Lübeck, Germany, 2009 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un)-related individuals, University of Nantes (BIL seminar series) Nantes, France, 2008 - invited
- The challenges of detecting epistatic patterns in genomic association studies, Klinikum Grosshadern, Germany, 2008 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un)-related individuals, Institute of Epidemiology - Helmholtz Zentrum München (German Research Center for Environmental Health, Neuherberg) Germany, 2008 - invited
- FAM-MDR, a novel screening method to detect epistasis in genetic association studies (Bio-Informatique Ligérienne) Nantes, France, 2008 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un)-related individuals, Imperial College, London, UK, 2008 - invited

- MB-MDR based screening to detect high-order genetic interaction in (un-)related individuals, BBC 2008, Maastricht, the Netherlands, 2008 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un-)related individuals, NCIO, Madrid, Spain, 2008 - invited
- MB-MDR based screening strategies to detect high-order genetic interactions in (un-)related individuals, Helmholtz Zentrum München, Munich, Germany, 2008 - invited
- Unravelling the mysteries of genetic interactions
  - The semi-parametric way? –, ERS-GA2len Research Seminar : "Post Genome Respiratory Epidemiology II: An Interdisciplinary Challenge", Cernay, France, 2008 - invited
- Statistical Challenges in Genomewide Association Analysis, ERS-GA2len Research Seminar : "Post Genome Respiratory Epidemiology II: An Interdisciplinary Challenge", Cernay, France, 2008 - invited
- FAM-MDR: A family-based multifactor dimensionality reduction technique to detect gene-gene interactions, Harvard School of Public Health, Boston, USA - invited
- Detecting high-order interactions – the semi-parametric way?, Universitat Politècnica de Catalunya (UPC) Barcelona, Spain, 2008 - invited
- Statistical challenges in genomewide association analysis, Universitat de Vic, Vic, Spain, 2008 - invited
- A statistical genetics research club ..., VIB Technology Park Ghent, Ghent, Belgium, 2008 - invited
- Power in statistical genetics and statistical significance; Part II: Evaluating power in genomewide association studies, Complex Genetics Meeting Seminar – Statistical Genetics Research Club, UZ Gasthuisberg, Leuven, Belgium, 2008 - invited
- Power in statistical genetics and statistical significance; Part I: What it involves and does not involve (Peter Konings and Kristel Van Steen) Complex Genetics Meeting Seminar – Statistical Genetics Research Club, UZ Gasthuisberg, Leuven, Belgium, 2008 - invited
- Statistical perspective on genomewide screening, Kick-off Meeting - Statistical Genetics Research Club, Montefiore, ULg, Liège, Belgium, 2008 - invited
- True or false – when the number of SNPs grows, Mc Master University, Hamilton, USA, 2008 - invited
- Invitation by Prof Dr Judah Denburg to attend AllerGen's 3rd annual research conference in Alberta Canada – discussant panel member as former GA2LEN affiliate and scientific collaborator with birth cohorts work package, 2008. - invited
- Unravelling the mysteries of genetic interactions – a statistical challenge, Liège, Belgium, 2007 - invited
- Unravelling the mysteries of genetic interactions – a statistical perspective (Invited Speaker) Lausanne, Switzerland, 2007 - invited
- Are we ready for genomewide association analysis? Quality of Life Unit Mediterranean Institute of Hematology (IME) (Invited Speaker) Rome, Italy, 2007. - invited
- Genomic Complex, simplex, complexity and simplicity in statistical genetics (Invited speaker) Oncologisch Zorgprogramma UZ Ghent (Invited Speaker) UZ Ghent, Belgium, 2007 - invited
- Perspectives on genomic association screening, Invited Seminar, UCL, Louvain-la-Neuve, Belgium, 2007. - invited

- Are we ready? Invited Speaker, UMC, Utrecht, The Netherlands, 2007 - invited
- Perspectives on genomic screening, Invited Seminar, ESAT - KUL, Leuven, Belgium, 2007. - invited
- Statistical Consulting for the Clinic (Provisional title; Invited Speaker) UZ Ghent Biostatistics Workshop, Ghent, Belgium, 2007. - invited
- Topics in Genetic Association Analysis (Invited Speaker) UCL, Belgium, 2007.
- When the number of SNPs grows too large, Universitat Politècnica de Catalunya (UPC) Barcelona, Spain, 2006. - invited
- When the number of SNPs grows, part II, Seminar Series on Complex Genetics, University Hospital Gasthuisberg Leuven, Belgium, 2006. - invited
- When the number of SNPs grows, part I, Seminar Series on Complex Genetics, University Hospital Gasthuisberg Leuven, Belgium, 2006. - invited
- Genomewide association screening using family-based association tests, Seminar at the faculty of Medicine at UZ Gasthuisberg (Afdeling Hypertensie en Cardiovasculaire Revalidatie) Leuven, Belgium, 2006. - invited
- Genomic screening methodology for common diseases and complex traits, Organon, Oss, the Netherlands, 2006. - invited
- Perspective on genomic screening in families, Invited Seminar, ESAT - KUL, Leuven, Belgium, 2006. - invited
- Genomic Screening in Family Based Association Testing using the same Data, Invited research stay with talk at the Institut Municipal d'Investigació Mèdica (IMIM) Barcelona, Spain, 2006. - invited
- Genomic screening in family based association testing using the same data set and the multiple testing problem, IAP Workshop V on "Flexible statistical analysis adapted to complex data structures", UCL, Louvain-la-Neuve, Belgium, 2006. - invited
- Genomic screening in family based association testing using the same data set and the multiple testing problem, Seminars in econometrics and statistics (invited speaker) Faculty of econometrics and applied economics, University Center for Statistics, KU Leuven, Leuven, Belgium, 2006. - invited
- Key concepts in genetic epidemiology, Seminars in epidemiology and clinical trials (invited speaker) Working group on epidemiology and center for clinical pharmacology, UZ St Rafael, Leuven, Belgium, 2006. - invited
- Genomic screening methodology for common diseases and complex traits, CMGG Invited Seminars, University Hospital Ghent, Belgium, 2006. - invited
- Genomic screening methodology for common diseases and complex traits, Seminar Series on Complex Genetics (Invited Speaker) Department of Psychiatry, University Hospital Gasthuisberg Leuven, Belgium, 2006. - invited
- Genomic screening in family based association studies, Channing Laboratory FBAT seminar series, Harvard Medical School, USA, 2004. - invited
- Genomic screening in family based association testing using PBAT, Invited talk at the department of molecular genetics (UA) organized by VIB-UA, Belgium, 2004. - invited
- Exhaustive allelic transmission disequilibrium tests based on TDT, Channing Laboratory FBAT seminar series, Harvard Medical School, USA, 2004.
- Statistical methods in psychiatric genetics, Psychiatric Biostatistics Seminar Series, Harvard School of Public Health, USA, 2003. - invited
- Comparing DNA sequences using generalized estimating equations and pseudo-likelihood, Hasselt University Seminar Series, Belgium, 2002. -

invited

- Genetic associations using the multivariate Dale model, 3 Country Corner (3CC) Meeting, Belgium, 2002.
- The multivariate Dale model and genetic associations, Channing Laboratory FBAT seminar series, Harvard Medical School, USA, 2002. - invited
- The multivariate Dale model and genetic associations, invited talk at Department of Epidemiology, Harvard School of Public Health, USA, 2002. - invited
- An introduction into the genetic vocabulary (Part 1-4) Research forum Hasselt University, Belgium, 2001.
- The omnipresence of missingness in statistical genetics. Research forum Hasselt University- tUL, Belgium, 2001. - invited
- Multiple imputation in practice, Research forum Hasselt University, Belgium, 2000. - invited
- Analyzing longitudinal quality of life data with dropout; a macro oriented approach (Part 1-4) EORTC Seminar Series, Belgium, 1999. - invited
- Estimation of genetic distances using statistical distance measures, University of Newcastle - school of mathematics and statistics, UK, 1998. – invited

*Selection of poster presentations in life sciences – as first or responsible author; title of abstract corresponds to title of presentation*

- Selecting multiple epistatic models using MB-MDR (responsible author). BVS annual meeting, Lommel, Belgium, 2009
- The omnipresence of missingness in statistical genetics – an equivalence test to compare DNA sequences, 1st Dutch-Belgian Biometric Conference (BBC2001) Belgium, 2001.

c) **Scientific networking**

To Montefiore (ULg) invited guests

	Speaker	Affiliation	Date	Location	Description
<b>Conference with short course : Capita Selecta in Complex Disease Analysis (CSCDA2010)</b>	www.statgen.be		25-27/08/2010	Leuven City	1st Edition of biennial Conference organized by ULg, in collaboration with 1 extra university in Wallonia and 2 universities in Flanders
	Rudy Parker	Golden Helix, Inc, USA	24/08/2010	ULg / GIGA	Golden Helix features for CNV GWAS and Imputation efforts
	P Konings	ESAT, Leuven, Belgium	28/05/2010	ULg	Fast computing in R and beyond
	K Van Steen	Montefiore, ULg, Belgium	12/05/2009	KUL	Evaluation of the Statistical Genetics Research Club : Research and Discussion Meeting
	B Müller-Myhsok	Max-Planck-Institute of Psychiatry, Munich, Germany	02/07/2009	ULg	Novel techniques in statistical genetics
	Y Aulchencko	Erasmus MC Rotterdam, Rotterdam,	23/03/2009	ULg	Pedigree-based association testing

		the Netherlands			
	A Ziegler	Universitaet zu Luebeck, Luebeck, Germany	21/11/2008	ULg	Gene-gene and gene-environment interactions
	L-C Tranchevent	ESAT, KUL, Leuven, Belgium	18/11/2008	ULg	Gene prioritization  (includes session with bioinformatics students ULg about the software ENDEAVOUR)
<b>Conference with short course: Statistics in Genetics</b>	www.statgen.be		15-18/09/2008	ULg	Co-organized by K Van Steen (Montefiore) and G Haesbroeck (Département de mathématique / Statistique mathématique) Subsides aux écoles doctorales thématiques (département des Sciences de la Vie ; département des sciences biomédicales et précliniques ; département d'astrophys, géophysique et océanographie ; département des sciences de la santé)
	G de Cooman	SYSTeMS Research Group, UG, Ghent, Belgium	12 /08/2008	ULg	Trying to be more honest about probabilistic modelling : a case study involving Markov chains
	H Van Maldeghem	Pure mathematics and computer science, UG, Ghent,	18/04/2008	ULg	From real estate denomination to pure mathematics and back to real life

		Belgium			
<b>Kick-off Meeting Statistical Genetics Research Club (www.statgen.be)</b>	K Van Steen (Montefiore) and G Haesbroeck (Département de mathématique / Statistique mathématique)		08/04/2008	ULg	<p><b>Setting goals and aims</b> This research club aims to bring together people from different backgrounds, within Life Sciences, so as to stimulate discussions and provide a nutrient pool for growing novel and cutting-edge ideas in the field of statistical genetics.</p> <p><b>Achieving the goals</b></p> <ul style="list-style-type: none"> <li>▪ by organizing introductory sessions to establish a common language</li> <li>▪ by hosting seminars with state-to-the-art approaches</li> <li>▪ by reading, presenting and discussing key papers, from conception of ideas to current common practice, to "grow" into a problem area</li> </ul> <p><b>Club House</b></p> <ul style="list-style-type: none"> <li>▪ Institut Montefiore / Bioinformatique (at ULg)</li> <li>▪ Services de Statistique de l'Institut de Mathématique (at ULg)</li> </ul>

See also “*Competence:Networks*”

#### **d) Participation to scientific groups or organizations**

##### Membership of scientific organizations

- Member of the International Biometrics Society (IBS)
- Elected board member of the Belgian Statistical Society (SBS-BVS) (since 2007)
- Ambassador for Belgium & member of the International Genetic Epidemiology Society (IGES)
- Member of the American Society of Human Genetics (ASHG)
- Member of the Statistical Modeling Society (SMS)
- Member of the European Society of Human Genetics (ESHG)

##### Participation in committees with respect to research

###### *In 2010*

- IGES ambassador for Belgium
- Elected board member of the Belgian Statistical Society
- Programme committee of ISMB2010
- FWO interdisciplinary expert panel (since 1 Jan 2010)
- Organising committee: short course and mini-conference in Liège “Capital selecta in complex disease analysis”
- Participation in the Spanish Biostatistical Network an opportunity given by the Spanish Ministry of Science and Innovation.
- Participation in the Harvard alumni scientific network.
- Participation in the Statistical Analysis Group of the International Genetics IBD Consortium
- Initiator of the Statistical Genetics Research Club, which aims to bring together people from different backgrounds, within Life Sciences, so as to stimulate discussions and provide a nutrient pool for growing novel and cutting-edge ideas in the field of statistical genetics and beyond.
- Scientific committee of 18th Annual Meeting of the Belgian Statistical Society (BSS)

###### *In 2009*

- IGES ambassador for Belgium
- Elected board member of the Belgian Statistical Society
- FRIA jury mathematics (2009)
- Organising committee: BBC09
- Programme committee and chair 18th annual Belgian-Dutch Conference on Machine Learning: BENELEARN 2009
- Organising committee: BBC09

###### *In 2008*

- IGES ambassador for Belgium
- Elected board member of the Belgian Statistical Society
- Organising committee: short course and mini-conference in Liège “Aspects in statistical genetics” (2008)

- Committee member of ‘commission charge par la Faculté d’examiner les candidatures à un poste académique dans la domaine des méthodes computationnelles pour la biologie systémique’
- Programme committees:
  - Second International Workshop on Machine Learning in Systems Biology, MLSB08, Brussels (Belgium)
  - ECCB08, Cagliari – Sardinia (Italy)
  - 17th annual Belgian-Dutch Conference on Machine Learning: BENELEARN 2008, Spa (Belgium)
- Steering committee member: ERBM workshop (Electronic Recognition of Bio-Molecules) Liège, Belgium

*Prior to 2008 (selection)*

- Elected board member of the Belgian Statistical Society (since 2007)
- SBS/BVS Meeting 2002 – member of the scientific committee
- Member of the user committee for the project: “Het biotechnologisch potentieel in Belgium” (2000-2003) - DWTC (federale diensten wetenschapsbeleid) / IWT.

Ongoing participation in task forces or follow-up meetings with respect to research

- Member of the Interuniversity Attraction Pole (IAP – Phase VI/4): BioMAGNet on Bioinformatics and Modelling – from Genomes to Networks (2008-)
- Member of the IST Programme of the European Community, under the PASCAL2 Network of Excellence Pattern Analysis, Statistical Modelling and Computational Learning, IST-2007-216886 (2008-)
- Member of the Interuniversity Attraction Pole (IAP – Phase VI): Statistical analysis of association and dependence in complex data (2007)
- Member of the Interuniversity Attraction Pole (IAP – Phase V): Statistical analysis of association and dependence in complex data (2006)

e) **Obtained grants / scientific contracts**

Obtained or under submission

Year of Submission	Type	Title / Description	Function	Funding	Status
2010	FNRS projet de recherche 1	Random Rotations in the Epistatic Jungle	Promotor	Post-doc and functioning	Pending
2010	FNRS projet de recherche 2	Integrated complex traits epistasis kit	Promotor	Post-doc and functioning	Pending
2010	FP7-ICT-2009-6	VIP: Virtual Intensive care Patient	Partner (representing ULg)  Promotor: Jan Ramon, KUL, Leuven, Belgium)	Staff and functioning	Pending
2010	Mandat de post-doctorat à l'ULg pour chercheur étranger	Associations génétique des taux d'IgE dans des échantillons de populations et de familles mis en commun.	Group Leader	Post-doc	Accepted
2010	WTCCC	Development and application of multi-locus methods, and gene-gene and gene-environment interaction strategies, to detect multiple causal variants for a variety of complex phenotypes.	Promotor	None: free and unlimited data access, within the existing contract	Accepted
2010	dbGap #5925-1	POPRES: Population	Promotor	None: free and	Accepted

		Reference Sample Participant sets: General Research Use (GRU) Data sets Participant sets		unlimited data access, within the existing contract	
2010	dbGap #5926-1	A Genome Wide Scan of Lung Cancer and Smoking Participant sets: Cancer and other diseases in adults only (PLCO)	Promotor	None: free and unlimited data access, within the existing contract	Accepted
2010	dbGap #5927-1	Pancreatic Cancer Cohort Consortium (PanScan) Participant sets: Research related to adult disedases and methods (CADM)	Promotor	None: free and unlimited data access	Accepted
2010	FWO onderzoeksproject	Role of copy number and SNP variation in human physical fitness	Co-promotor  (Promotor: Greet Van Den Berghe, UZ Gasthuisberg, Leuven, Belgium)	KUL staff member under my supervision	Pending
2010	FWO onderzoeksproject	Disturbances in energy metabolism and the control of inflammatory responses in critical illness: role of genetic predisposition	Co-promotor  (Promotor: Martine Thomis,	KUL staff member under my supervision	Pending

			KUL, Leuven, Belgium)		
2010	FWO onderzoeksproject	Epidemiological, immunological, pneumological, and genetic valorisation of a birth cohort on asthma and allergy in Flanders (PIPO)	Co-promotor  (Promotor: Joost Weyler, UA, Antwerp, Belgium)	UA staff member under my supervision	Pending
2009	ARC2010	Strategies with medical applications for the identification of gene-gene and gene-environment interactions and multiple causal variants with complex phenotypes.	Promotor	1 250 000 EURO	Pending
2009	dbGap #4361-1	SNP Health Association Resource (SHaRe) Asthma Resource Project (SHARP) Asthma-Related Research	Promotor	None: free and unlimited data access, within the existing contract	Accepted  (#4361-2 to extend the contract to additional members of Montefiore and GIGA-R: accepted)
2007	Crédit de démarrage R.CFRA.0141	Association génétique des taux d'IgE spécifiques totaux et sériques dans des échantillons de populations caucasiennes et de familles mis en commun	Principal Investigator	88 000 EURO	Accepted
2007	Beques de recerca per a professors/res i investigadors/res visitants a	Strategies for the identification of genetic variability associated with complex phenotypes.	Host Institute: University of Vic, Spain	2 250 EURO / month	Accepted  (Only 3 out of 4 months were taken up, in order to be able to fulfill the new commitments

	catalunya (piv 2007) - núm. expedient: 2007 piv 10018				made at ULg)
2007	FWO onderzoeksproject G.0.410.08.N.10	Development of prevalence and determinants of asthma, COPD and allergies among adults in Flanders ; a follow-up study of the European Community Respiratory Health Survey (ECRHS)	Co-promotor (Promotor: Joost Weyler, UA, Antwerp, Belgium)	2008: 27000 EURO 2009: 22000 EURO 2010: 22000 EURO 2011: 10000 EURO	Accepted

Under construction

Year of Submission	Type	Title / Description	Function	Funding	Status
>2010	EU Framework Program	COMed : Consortium on OMics for Medicine	Coordinator	TBA	Consortium has been established  Lobbying ongoing
2010	Broad Medical Research Program Inflammatory Bowel Disease Grants	Provisional title: An integrated view on inflammatory bowel disease risk profiling	Promotor	TBA	In progress – anticipated submission < end of 2010

## f) Self-study time

### During study/research leaves

- Harvard School of Public Health, Boston, USA (November 2009). Topic: Epistasis screening in genome-wide association studies.
- Institut national de la santé et de la recherche médicale (INSERM / Florence Demenais) in Paris, France (July, November 2009). Topic: jointly testing of groups of markers; setting out a strategy for new project proposals.
- Departament de Biologia de Sistemes, Universitat de Vic, Barcelona, Spain (December 2008 – January 2009, February 2010). Topic: Incorporating machine learning techniques in the search for epistatic effects.
- Harvard School of Public Health, Boston, USA (October 2008). Topic: Using phenotypes in family members in genetic association testing.
- Departament de Biologia de Sistemes, Universitat de Vic, Barcelona, Spain (May – June 2008). Topic: Genetic interactions – methodological developments for large-scale screening.
- Municipal Institute of Medical Research (IMIM) Barcelona, Spain, 2007 (invited by Dr M Kogevinas). Topic: Missing SNPs in candidate genes.
- Municipal Institute of Medical Research (IMIM) Barcelona, Spain, 2006 (invited by Dr M Kogevinas). Topic: non-parametric techniques to detect epistasis in ECRHS II data set.
- Department of biostatistics, HSPH, Boston, USA, 2005 (**invited** by Dr N Laird). Topic: Optimization of FBAT screening methodology
- Department of biostatistics, HSPH, Boston, USA, 2002 (**invited** by Dr N Laird). Topic: Research on the use of the Dale model in genetic association studies.

## g) Publications (including those for doctorate or study)

### Articles in internationally reviewed journals

#### *Published /accepted articles or letters*

- Arijs I, Quintens R, Van Lommel L, **Van Steen** K, De Hertogh G, Lemaire K, Schraenen A, Perrier C, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2010) The predictive value of epithelial gene expression profiles for response to infliximab in Crohn's disease. *Inflammatory Bowel Diseases*.
- Bachert C, Zhang N, Holtappels G, De Lobel L, van Cauwenberge P, Liu S, Lin P, Bousquet J, **Van Steen** K (2010) Presence of IL-5 and IgE-antibodies to Staphylococcus aureus enterotoxins in nasal polyps is associated with co-morbid asthma. *J Allergy Clin Immunol*
- Calle ML, Urrea V, **Van Steen** K (2010) mbmdr: an R package for exploring gene-gene interactions associated with binary or quantitative traits. *Bioinformatics* 26 (17): 2198-2199
- Cattaert T, Calle ML, Dudek SM, Mahachie John JM, Van Lishout F, Urrea V, Ritchie MD, **Van Steen** K (2010) A detailed view on Model-Based Multifactor Dimensionality Reduction for detecting gene-gene interactions in case-control data in the absence and presence of noise. (*invited paper* of **K Van Steen** as expert entry to special issue on epistasis). *Ann Hum Genet*

- Cattaert T, Urrea V, Naj AC, De Lobel L, De Wit V, Fu M, Mahachie John JM, Shen H, Calle ML, Ritchie MD, Edwards T, **Van Steen K**. (2010) FAM-MDR: a flexible family-based multifactor dimensionality reduction technique to detect epistasis using related individuals, PLoS One 5 (4).
- Cleynen I, Mahachie John J. M, Henckaerts L, Van Moerkercke W, Rutgeerts P, **Van Steen K** and Vermeire S (2010) Molecular reclassification of Crohn's disease by cluster analysis of genetic variants. PLoS One
- Cohen R, Raby B, **Van Steen K**, Fuhlbrigge A, Celedon J, Rosner B, Strunk R, Zeiger R, and Weiss S (2010) In utero smoke exposure and impair response to inhaled corticosteroids in children with asthma. Journal of allergy and clinical immunology.
- De Lobel L, Geurts P, Baele G, Castro-Giner F, Kogevinas M, **Van Steen K** (2010) A screening methodology based on Random forests to improve the detection of gene-gene interactions. European Journal of Human Genetics.
- Joossens M, **Van Steen K**, Branche J, Sendid B, Rutgeerts P, Vasseur F, Poulain D, Broly F, Colombel J, Vermeire S and Chamaillard M. (2010) Familial aggregation and antimicrobial response dose-dependently affect the risk for Crohns disease. Inflamm Bowel Dis 16 (1): 58-67.
- Fidler H, **Van Steen K**, van Assche G, Rutgeerts P and Vermeire S (2010) Immortal time bias and infliximab-related mortality and malignancy incidence. (letter to the editor). Gut 59: 416.
- Fidler H, **Van Steen K**, van Assche G, Rutgeerts P and Vermeire S (2010) Reanalysis of death risk in long-term follow-up in infliximab patients versus controls (letter to the editor). Gut 59: 416.
- Henckaerts L, Cleynen I, Brinar M, Mahachie John JM, **Van Steen K**, Rutgeerts P, Vermeire S (2010) Genetic variation in the autophagy gene ULK1 and risk for Crohn's disease. Inflammatory Bowel Disease
- Mahachie John JM, Baurecht H, Rodriguez E, Naumann A, Wagepfeil S, Memper M, Klopp N, Novak N, Bieber T, Wichmann H-E, Illig T, **Van Steen K**, Weidinger S (2010) Analysis of the high affinity IgE receptor genes reveals epistatic effects of FCER1A variants on eczema risk. Allergy 65 (7): 875-882.
- **Van Steen K** (2010) Perspectives on Large-Scale Multi-Stage Family-Based Association Studies (*invited by Stats in Med; provisional accept*).
- Vermeulen N, **Vermeire S**, **Van Steen K**, Arijs I, Michiels G, Ballet V, Schuit F, Van Lommel L, Rutgeerts P, Bossuyt X (2010) Identification of novel autoantibodies in inflammatory bowel disease by protein microarray – Gut.
- Arijs I, Hertogh G. D, Lemaire K, Quintens R, Lommel L. V, **Van Steen K**, Leemans P, Cleynen I, Assche G. V, Vermeire S, Geboes K, Schuit F, Rutgeerts P. (2009) Mucosal gene expression of antimicrobial peptides in inflammatory bowel disease before and after first infliximab treatment. PLoS One 4 (11) : 7984.
- Arijs I, Li K, Toedter G, Quintens R, Lommel L. V, **Van Steen K**, Leemans P, Hertogh G. D, Lemaire K, Ferrante M, Schnitzler F, Thorrez L, Ma K, Song X. R, Marano C, Assche G. V, Vermeire S, Geboes K, Schuit F, Baribaud F, Rutgeerts P. (2009) Mucosal gene signatures to predict response to infliximab in patients with ulcerative colitis. Gut 58 (12): 1612-1619.
- Bogaert V, Vanbillemont G, Taes Y, De Bacquer D, Deschepper E, **Van Steen K**, and Kaufman J. (2009) Small effect of the androgen receptor gene GGN repeat polymorphism on serum testosterone levels in healthy men. Eur J Endocrinol 161 (1): 171-177.
- Henckaerts L, **Van Steen K**, Verstreken I, Cleynen I, Franke A, Schreiber S, Rutgeerts P and Vermeire S. (2009) Genetic risk profiling and prediction of disease course in Crohns disease patients. Clin Gastroenterol Hepatol 7 (9): 972-

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- Henckaerts L, Nielsen K. R, Steffensen R, **Van Steen K**, Mathieu C, Giulietti A, Wouters P. J, Milants I, Vanhorebeek I, Langouche L, Vermeire S, Rutgeerts P, Thiel S, Wilmer A, Hansen T. K, den Berghe G. V. (2009) Polymorphisms in innate immunity genes predispose to bacteremia and death in the medical intensive care unit. *Crit Care Med* 37 (1): 192-201 e1-3.
- Raby B, **Van Steen K**, Lasky-Su J, Tantisira K, Kaplan F, Weiss ST (2009). Importin-13 DNA sequence variants are associated with improved airway hyperresponsiveness in childhood asthma. *Respiratory Research* 10: 67
- Ripatti S, Becker T, Bickebölller H, Dominicus A, Fischer C, Humphreys K, Jonasdottir G, Moreau Y, Nilsson S, Olsson M, Ploner A, Sheehan N, **Van Steen K**, Wessman J, Baur M, van Duijn C, Palmgren J (2009). GENESTAT: an information portal for design and analysis of genetic association studies.. *Eur J Hum Genet.* 17 (4): 533-536.
- Schnitzler F, Fidder H, Ferrante M, Noman M, Arijs I, Van Assche G, Hoffman I, **Van Steen K**, Vermeire S, Rutgeerts P. (2009) Mucosal healing predicts long-term outcome of maintenance therapy with infliximab in Crohn's disease. *Inflamm Bowel Dis* 15 (9): 1295-1301.
- Schnitzler F, Fidder H, Ferrante M, Noman M, Arijs I, Van Assche G, Hoffman I, **Van Steen K**, Vermeire S, Rutgeerts P. (2009) Long-term outcome of treatment with infliximab in 614 patients with Crohns disease: results from a single-centre cohort. *Gut* 58 (4): 492-500.
- Vanbillemont G, Bogaert V, De Bacquer D, Lapauw B, Goemare S, Toye K, **Van Steen K**, Taes Y, Kaufman JM (2009) Polymorphisms of the sex hormone-binding globulin gene contribute to the interindividual variation of sex steroid hormone blood levels in young, middle-aged and elderly men. *Clin Endocrinol.* 70 (2): 303-310.
- Bogaert V, Taes Y, Konings P, **Van Steen K**, Bacquer D. D, Goemaere S, Zmierzak H, Crabbe P, Kaufman J. (2008) Heritability of blood concentrations of sex-steroids in relation to body composition in young adult male siblings. *Clin Endocrinol (Oxf)* 69 (1): 129-135.
- Calle M, Urrea V, Malats N, **Van Steen K**. (2008) Improving strategies for detecting genetic patterns of disease susceptibility in association studies – *Statistics in Medicine* 27 (30): 6532-6546.
- Castro-Giner F, Kogevinas M, Machler M, de Cid R, **Van Steen K**, Imboden M, Schindler C, Berger W, Gonzalez JR, Franklin KA, Janson C, Jarvis D, Omenaas I, Burney R, Rochat T, Estivill X, Anto JM, Wjst M, Probst-Hensch NM (2008) TNFA-3086 > A in two international population-based cohorts and risk of asthma. *European Respiratory Journal* 32 (2): 350-361.
- Ferrante M, Vermeire S, Fidder H, Schnitzler F, Noman M, Van Assche G, De Hertogh G, Hoffman I, D'Hoore A, **Van Steen K**, Geboes K, Penninckx F, Rutgeerts P (2008). Long-term outcome after infliximab for refractory ulcerative colitis. *Journal of Crohn's and Colitis* 2 (3): 219-225.
- Ferrante M, Henckaerts L, Joossens M, Pierik M, Joossens S, Dotan N, Norman G, Altstock R, **Van Steen K**, Rutgeerts P, Van Assche G and Vermeire S. (2007) New serological markers in inflammatory bowel disease are associated with complicated disease behaviour. *Gut* 56 (10): 1394-1403. Epub 2007 Apr 24.
- **Van Steen K**, Laird NM, Markel P, Molenberghs G (2007) Approaches to handling incomplete data in family-based association testing. *Ann Hum Genet.* Mar 71 (Pt 2): 141-51. Epub 2006 Nov 10.

- Efficace F, Bottomley A, Coens C, **Van Steen K**, Conroy T, Schoffski P, Schmoll H, Van Cutsem E, Köhne C-H (2006) Does a patient's self-reported health-related quality of life predict survival beyond key biomedical data in advanced colorectal cancer, *Eur J Cancer*. 42 (1): 42-49.
- Pierik M, Joossens S, **Van Steen K**, Van Schuerbeek N, Vlietinck R, Rutgeerts P and Vermeire S (2006) Toll-like receptor-1, -2, and -6 polymorphisms influence disease extension in inflammatory bowel diseases. *Inflamm Bowel Dis*. 12 (1): 1-8.
- Raby BA, Hwang E-S, **Van Steen K**, Tantisira K, Peng S, Litonjua A, Lazarus R, Gaillourakis C, Rioux J, Sparrow D, Silverman EK, Glimcher L, Weiss ST (2006) T-bet polymorphisms are associated with asthma and airways hyperresponsiveness, *Am J Respir Crit Care Med* 173 (1): 64-70.
- Raby BA, **Van Steen K**, Lazarus R, Celedón JC, Silverman E, Weiss ST (2006) Eotaxin polymorphisms and serum total IgE levels in children with asthma, *J Allergy Clin Immunol* 117 (2): 298-305.
- Mcqueen MB, Devlin B, Faraone SP, Nimgaonkar VL, Sklar P, Smoller JW, Abou Jamra R, Albus M, Bacanu SA, Baron M, Barrett TB, Berrettini W, Blacker D, Byerley W, Cichon S, Coryell W, Craddock N, Daly M, Depaulo JR, Edenberg HJ, Foroud T, Gill M, Gilliam TC, Hamshere M, Jones I, Jones L, Juo S-H, Kelsoe JR, Lambert D, Lange C, Lerer B, Liu J, Maier W, Mcinnis MG, McMahon F, Murphy DL, Nöthen MM, Nurnberger JI, Pato CN, Pato MT, Potash JB, Propping P, Pulver AE, Rice JP, Rietschel M, Scheftner W, Schumacher J, Segurado R, **Van Steen K**, Xie W, Zandi PP and Laird NM (2005) Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence for susceptibility loci on chromosomes 6q and 8q, *Am J Hum Genet*. 77 (4): 582-595.
- Murphy A, Mcqueen MB, Su J, Kraft P, Lazarus R, Laird NM, Lange C, **Van Steen K** (2005) Genomic Screening in Family Based Association Testing. *Genet. Epidemiol.* 29 (Suppl. 1): 91-95
- Moerkerke B, Goetghebeur E, **Van Steen K**, Van Belle S, Cocquyt V (2005) Permutation based methods for analyzing quality of life data, *Stat Med*. 24 (24): 4055-4066.
- Raby BA, **Van Steen K**, Celedon JC, Litonjua AA, Lange C, Weiss ST for the CAMP Research Group (2005) Paternal history of asthma and airway responsiveness in children with asthma, *Am J Respir Crit Care Med*. 172 (5): 552-558.
- Van Ranst M, Joossens M, Joossens S, **Van Steen K**, Pierik M, Vermeire S, Rutgeerts P (2005) Crohn's disease and month of birth. *Inflammatory bowel diseases* 11 (6): 597-599.
- **Van Steen K**, Lange C (2005) PBAT: a comprehensive software package for genome-wide association analysis of complex family-based studies (Invited submission) *Journal of Human Genomics* 2 (1): 67-69.
- **Van Steen K**, Mcqueen MB, Herbert A, Raby B, Lyon H, Demeo DL, Murphy A, Su J, Datta S, Rosenow C, Christman M, Silverman Ek, Laird NM, Weiss St, Lange C (2005) Genomic screening and replication using the same data set in family-based association testing, *Nature Genetics* 37 (7): 683 – 691.
- **Van Steen K**, Raby B, Molenberghs G, Thijs H, De Wit M, Peeters M (2005) An equivalence test for comparing DNA sequences, *Pharmaceutical Statistics* 4 (3): 203-214.
- Efficace F, Biganzoli L, Piccart M, Coens C, **Van Steen K**, Cufer T, Coleman Re, Calvert Ha, Gamucci T, Twelves C, Fargeot P, Bottomley A (2004) Baseline health-related quality of life data as prognostic factors in a phase III multicenter

- study of women with metastatic breast cancer, *Eur J Cancer* 40 (7): 1021 – 1030.
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#### Other articles

##### *Under revision or submission*

- Joossens M, Huys G, **Van Steen K**, Cnockaert M, Vermeire S, Rutgeerts P, Verbeke K, Vandamme P, De Preter V (2010) High-throughput method for comparative analysis of denaturing gradient gel electrophoresis profiles from human fecal samples – under review at *FEMS Microbiology Ecology*.
- Alaerts M, Ceulemans S, Forero D, Moens LN, De Zutter S, Heyrman L, Lenaerts A-S, Norrback K-F, Goossens D, De Rijk P, **Van Steen K**, Adolfsson R, Del-Favero J (2010). Genome scan in large complex pedigrees from an isolated

Northern Swedish population.

- Moens L, De Rijk P, Reumers J, Alaerts M, Ceulemans S, Forero D, Glasse W, De Zutter S, Heyrman L, Lenaerts A-S, Norrback K-F, Castello IM, Goossens D, **Van Steen K**, Adolfsson R, Del-Favero J (2010) Next generation sequencing and mutation analysis of the DISC1 pathway in schizophrenia.
- Schnitzler F, Fidder H, Ferrante M, Ballet V, Noman M, Van Assche G, Spitz B, Hoffman I, **Van Steen K**, Vermeire S, Rutgeerts P (2010) Outcome of pregnancy in women with inflammatory bowel disease treated with infliximab.
- Lødrup Carlsen KC, Roll S, Carlsen KH, Mowinckel P, Wijga AH, Brunekreef B, Torrent M, Roberts G, Arshad SH, Kull I, Krämer U, von Berg A, Eller E, Høst A, Kuehni C, Spycher B, Sunyer J, Chen CM, Reich A, Arsanoj A, Puig C, Herbarth O, **Van Steen K**, Willich SN, Wahn U, Lau S, Keil T, for the working group of GA<sup>2</sup>LEN WP 1.5 ‘Birth Cohorts’ (2010) Pets in infancy - asthma or allergy in school age? Meta-analyses with individual raw data from 11 European birth cohorts.
- Arijs I, **Van Steen K**, Quintens R, Lemaire K, Van Lommel L, De Hertogh G, Van Assche G, Vermeire S, Geboes K, Schuit F, Rutgeerts P (2010) Intestinal mucosal gene expression of cell adhesion molecules, chemokines and chemokine receptors in patients with inflammatory bowel disease before and after infliximab treatment.
- Vermeulen N, Vermeire S, **Van Steen K**, Arijs I, Michiels G, Ballet V, Schuit F, Van Lommel L, Rutgeerts P, Bossuyt X (2010) Identification of novel antibodies in inflammatory bowel disease by protein microarray.

*Under construction (submission ready: to be submitted within the next month)*

- Jürgens M, Mahachie John JM, Cleyne I, Schnitzler F, Fidder H, Ballet V, Noman M, Hoffman I, Van Assche G, Rutgeerts PJ, **Van Steen K**, Vermeire S (2010) Predictive value of C-reactive protein changes on the outcome of infliximab in Crohn’s disease – submission ready.
- Van Lishout F, Cattaert T, **Van Steen K** (2010) To the editor: Speedy MB-MDR – submission ready.
- Mahachie John JM, Cattaert T, Van Lishout F, **Van Steen K** (2010) Model-Based Multifactor Dimensionality Reduction to detect epistasis for quantitative traits in the presence of error-free and noisy data – submission ready.
- Gevaert Philippe, Van Bruaene Nicholas, De Ruyck Natalie, Blomme Katrien, Cattaert Tom, Sousa AnaR, Marshall Richard P, **Van Steen K**, Bachert Claus (2010) Mepolizumab, a humanised anti-IL-5 monoclonal antibody, as treatment of severe nasal polyposis – submission ready.
- Ziegler A, **Van Steen K**, Wellek S (2010) Investigating Hardy-Weinberg equilibrium in case-control or cohort studies or meta-analysis – submission ready.
- **Van Steen K** (2010) Invited review paper on epistasis analysis (Briefings in Bioinformatics) – under construction.
- Rzehak P et al for the working group of GA<sup>2</sup>LEN-WP 1.5 ‘Birth Cohorts’ (2010) Body-mass-index trajectory classes and asthma onset in childhood. Results from European Birth Cohorts – a Global Allergy and Asthma European Network initiative – under construction.
- **Van Steen K**, Vermeiren V, Huyghe J, Van de Peer Y (2010) GERONIMO and integrating omics data into MB-MDR screening for epistasis – under construction
- Demenais F, **Van Steen K** (\*) (2010) Review paper on multi-marker analysis – under construction (\*): equally contributing with first author).
- Arijs I, Van Lommel L, **Van Steen K**, De Hertogh G, Schuit F, Geboes K, Van Assche G, Vermeire S, Rutgeerts P. (2010). Gene expression profiling to predict

- the response of infliximab in patients with UC – under construction.
- Joossens S, Colombel J-F, Vermeire S, Landers C, **Van Steen K**, Sendid B, Poulain D, Geboes K, Bossuyt X, Vandewalle P, Oberhuber G, Vogelsang H, Targan S, Rutgeerts P, Reinisch W. (2010) Anti-outer membrane of porine c and anti-12 antibodies in indeterminate colitis – under construction.
  - Joossens S, Halfvarson J, Romberg-Camps M, **Van Steen K**, Vermeire S, Järnerot G, Stockbrugger R, Matthijs G, Vlietinck R, Bossuyt X, JF Colombel, Rutgeerts P, Tysk C. (2010) Seriological markers in twins with inflammatory bowel disease – under construction.
  - Calle M, et al, **Van Steen K** (2010) Multilocus information measures as pre-screening tool for multifactor dimensionality reduction in the context of epistasis – under construction.
  - Haerynck F, **Van Steen K**, et al. (2010) Genetic analysis of pseudomonas infections – under construction.

#### Selection of 5 most representative publications

- Cattaert T, Urrea V, Naj AC, De Lobel L, De Wit V, Fu M, Mahachie John JM, Shen H, Calle ML, Ritchie MD, Edwards T, **Van Steen K** (2010) FAM-MDR: a flexible family-based multifactor dimensionality reduction technique to detect epistasis using related individuals. PLoS One, 5 (4).
- Ripatti S, Becker T, Bickeböllner H, Dominicus A, Fischer C, Humphreys K, Jonasdottir G, Moreau Y, Nilsson S, Olsson M, Ploner A, Sheehan N, **Van Steen K**, Wessman J, Baur M, van Duijn C, Palmgren J (2009). GENESTAT: an information portal for design and analysis of genetic association studies. European Journal of Human Genetics 17(4): 533-6 .
- **Van Steen K**, McQueen MB, Herbert A, Raby B, Lyon H, Demeo DL, Murphy A, Su J, Datta S, Rosenow C, Christman M, Silverman Ek, Laird NM, Weiss St, Lange C (2005) Genomic screening and replication using the same data set in family-based association testing. Nature Genetics 37 (7): 683-691.
- **Van Steen K**, Laird NM, Markel P, Molenberghs G (2006), Approaches to handle incomplete data in family-based association testing. Annals of Human Genetics 71: 141-151.
- **Van Steen K**, Tahri N, Molenberghs G (2004) Introducing the multivariate Dale model in population based genetic association studies. Biometrical Journal 46 (2): 187-202.

#### Internal reports

- **Van Steen K**, Laird NM (2004) Family based association tests and the FBAT toolkit. User's Manual.
- **Van Steen K**, Curran D (1999) Scoring SAS macros (in the context of Quality of Life data) included in the EORTC QLQC-30 Scoring Manual, EORTC study group on quality of life, Brussels.
- **Van Steen K**, Carthy S, Curran D (1999) Analysis of Quality of Life: statistical guidelines manual (for EORTC internal use).

## Books

### *Author*

- In May 2007 I was approached by Springer – Editorial Statistics to write a book in the field of statistical genetics. I have accepted, in collaboration with my co-author Dr Aaron Isaacs (Erasmus Medical Centre, Rotterdam – the Netherlands). A first draft of a table has been accepted by the editors and sent out to the reviewers. Targeted publication: 2011.
  - **Van Steen K** and Isaacs A (20--) A Road Map to Genetic Association Studies: A user-oriented approach.

## Articles in or part of books

### *Author / co-author*

- **Van Steen K**, Molenberghs G, Multicollinearity, 3rd edition encycl of biopharmac statistics - p836-p843 / Shein-Chung Chow [edit.], (2010), - <http://www.amazon.com/Encyclopedia-Biopharmaceutical-Statistics-Third-SHEIN/dp/143982245X/> Invited revision of the 2004 publication below.
- Molenberghs G, Beunkens C, Thijs H, Jansen I, Verbeke G, Kenward MG and **Van Steen K**, Analysis of incomplete data. In SAS System for Clinical Trials II. Dmitrienko A, Chuang-Stein C and D'Agostino R (Eds.) (2007) Cary: SAS Press, pp. 313-360.
- Molenberghs G, Beunkens C, Jansen I, Thijs H, **Van Steen K**, Verbeke G, Kenward MG, Analysis of incomplete data. In 'Pharmaceutical Statistics with SAS' Chuang-Stein, C.; D'Agostino, R. (2005) SAS Publishing (Cary, NC).
- Molenberghs G, Beunkens C, Jansen I, Thijs H, Verbeke G, Kenward MG, **Van Steen K**, Analysis of incomplete data. In 'SAS System for Clinical Trials II' Dmitrienko, A.(2005) SAS Publishing (Cary, NC).

Based on the papers:

- **Van Steen K**, Molenberghs G, Verbeke G, Thijs H (2001) A Local Influence Approach to Sensitivity Analysis of Incomplete Longitudinal Ordinal Data, *Statistical Modelling: An International Journal*, 1: 125-142.
- Jansen I, Molenberghs G, Aerts M, Thijs H, Van Steen K (2003) A Local Influence Approach applied to Binary Data from a Psychiatric Study, *Biometrics*, 59 (2): 410-419.
- Laird NM, Kraft P, Lange C, **Van Steen K**, Testing for association in genetic studies. In: *Respiratory Genetics*, Eds EK Silverman, SD Shapiro, DA Lomas and ST Weiss (2005) Edward Arnold (Publishers) Ltd, pp. 27-46.
- **Van Steen K**, Molenberghs G, Multicollinearity, Published in *Encyclopedia of Biopharmaceutical Statistics / Shein-Chung Chow [edit.]*, (2004) ISBN: 0-8247-4263-X.
- **Van Steen K**, Molenberghs G, Multivariate and multidimensional analysis, In: *Biometrics / Wilson S. [edit.]*, Oxford, Eolss, (2003).-www.eolss.net.

### III.4. Additional competences

#### a) Competence 1: Organizational talent

Organization of conferences, study days, work shops

E.g.

- Capita Selecta of Complex Disease Analysis: biennuel mini-conference with workshops and short courses, since 2010, to stimulate interdisciplinary collaborations in statistical genetics (in joint collaboration with UA, KUL, ULB; main responsible: K Van Steen).
- Statistical Genetics Research Clubs to stimulate exchange of ideas and to enhance multi-disciplinary collaborations in Belgium, since 2008 (in close collaboration with the “complex genetics core facility” at the University of Leuven).
- Short course on family based association testing 2006 (lectors: N Laird, C Lange, K Van Steen; tutorial responsible: A Murphy) – responsible organizer.
- Advanced Course in Linkage Analysis 2002 (lectors: J Terwilliger, J Blangero, L Almasy) – responsible organizer.
- European Mathematical Genetics Meeting (EMGM) 2000 – member of the organizing committee.

#### b) Competence 2: Team spirit

Scientific consulting ULg (2008-present)

Contact	Institution	Start	Topic	Status
Liesbet Geris	ULg - Département d'aérospatiale et mécanique	2010	Adoption of partial least squares approaches in bone tissue engineering	Ongoing
Damien Ernst	ULg – Institut Montefiore	2010	Random Rotations to find your way in the Random Jungle	Ideas reflected in: FNRS projet call “juin 2010”
Edouard Louis	ULg - Département des sciences cliniques	2010	Genetics of inflammatory bowel disease in the light of the International IBD Genetics Consortium	First contacts made. Follow-up meeting in summer to find synergetic opportunities for collaboration
Michel Georges	ULg - Département de productions animales / GIGA-R : Génomique	2010	Strategies with medical applications for the identification of gene-gene and gene-environment interactions and multiple causal variants with complex phenotypes.	Intent of collaboration reflected in ARC2010 (LOI: accepted; acceptance full application: pending)

	animale			
Vincent Bours	ULg - Département des sciences biomédicales et précliniques / GIGA-R : Génétique générale et humaine	2010	Strategies with medical applications for the identification of gene-gene and gene-environment interactions and multiple causal variants with complex phenotypes.	Intent of collaboration reflected in ARC2010 (LOI: accepted; acceptance full application: pending)

Scientific consulting for other belgian instutes

Contact	Institution	Start	Topic	Status	Paper(s)
Christoph Metalidis	UZ Gasthuisberg – Belgium	2010	Genetic association studies with clinical and histological outcomes in nephrology	ongoing	
Liesbeth Viaene	UZ Gasthuisberg – Belgium	2010	Long-term evolution of serum and urine parameters for patients in peritoneal dialysis	ongoing	
Hilde Peeters	UZ Gasthuisberg – Belgium	2010	Suitable family-based association screening techniques	ongoing	
Greet Van Den Berghe	UZ Gasthuisberg – Belgium	2010	Disturbances in energy metabolism and the control of inflammatory responses in critical illness: role of genetic predisposition  Mitochondrial DNA analyses for subgroup identification	ongoing	
Sylvie Seeuws	UZ Gent - Belgium	2010	Pros and cons of WHAP analysis	finished	
Hans Vermeesch	UZ Gent - Belgium	2009	Dealing with X-inactivation in genetic	finished	
JM Kaufman	UZ Gent - Belgium	2009	Follow-up on genetic screening for osteoporosis in men; confirmation sought in Swedish population	ongoing	
Vanessa Vermeirssen	VIB UG - Belgium	2009	Converting learning module networks for microarray expression data	ongoing	

			to general human complex disease applications		
Lotte Moens	VIB UA - Belgium	2009	X-MDR epistasis screening and interaction graphs	finished	x
Nathalie Vermeulen	UZ Gasthuisberg - Belgium	2009	Protoarray data analysis	finished	x
Philip Gevaert	UZ Gent - Belgium	2008	Anti-IL5 analysis	final stage	x
Claus Bachert	UZ Gent - Belgium	2008	IgE association study	ongoing	x
Nicholas Van Bruaene	UZ Gent - Belgium	2008	Sinusitis cohort sampling design and analysis	finished ongoing	
Daan De Maeseneer / Simon Van Belle	UZ Gent – Belgium	2008	Data base construction of national breast cancer data  Quality of Life analysis in breast cancer patients	finished	x
Filomeen Haerynck	UZ Gent – Belgium	2008	Extensive genetic analysis on pseudonoma: main effects and interaction analyses	finished ongoing	x
Maike Alaerts	VIB UA – Belgium	2008	FBAT analysis and X-MDR epistasis screening	finished	x
Ingrid Arijs	UZ Gasthuisberg – Belgium	2008	Support in statistical analysis of microarray data in inflammatory bowel disease patients	finished	x
Isabelle Cleynen	UZ Gasthuisberg – Belgium	2008	Epistasis and multi-locus analysis in Crohn's disease  The power of the X-chromosome (former contact person Isabel Verstreken)	ongoing  start-up	
Herma Fidler	UZ Gasthuisberg – Belgium	2008	Immortal time bias	finished	x
Matthias Jürgens	UZ Gasthuisberg – Belgium	2008	CRP profile analysis	finished	x
Liesbet Henckaerts	UZ Gasthuisberg – Belgium	2007	Genetic risk profiling and prediction of disease course in Crohns disease patients	finished	x
Marc Ferrante	UZ Gasthuisberg – Belgium	2007	Serological marker in inflammatory bowel disease	finished	x

Marie Joossens	UZ Gasthuisberg – Belgium	2006	Bacterial gut flora: analysis	finished	x
Johannes Ruige	UZ Gent - Belgium	2006	Genetic association study for type I diabetes	finished	
Patricia Crabbe	UZ Gent - Belgium	2006	Optimal marker selection for genetic association studies in families	finished	
Mario Van Poucke	UG – Belgium	2006	PNRP polymorphisms associated with PRNP mRNA expression in blood in Belgian sheep population	finished	
Sofie Bekaert	Bioscope-IT/UG, Belgium	2006	Experimental designs and formulation of requirements to set up a biostatistical platform service bridging university and university hospital	finished	
Youri Taes	UZ Gent – Belgium	2005	Variance components analysis of SIBLOS data	finished	x
Jacques Vanobbergen	UZ Gent – Belgium	2005	Oral hygiene of elderly people in long-term care institutions	finished	
Jan Hellemans	UZ Gent – Belgium	2005	Statistical approaches to laboratory calibration problems	finished	
Sofie Joossens	UZ Gasthuisberg – Belgium	2005	Month of birth and Crohn's disease	finished	x
Marieke Pierik	UZ Gasthuisberg – Belgium (currently in Maastricht University)	2004	How to make sense of mixed families when inflammatory bowel disease is involved?	finished	x
Sofie Joossens	UZ Gasthuisberg – Belgium	2004	Pancreatic autoantibodies in inflammatory bowel disease	finished	x
Liesbeth Bruckers (former co-coordinator consult UHasselt)	TIBOTEC-VIRCO	2000-2003	HIV longitudinal analysis	finished	
	HIS		Evaluation of the Belgian Health Interview Survey 1997	finished	
	DWTC		New sampling strategies for health surveys and non-response analysis	finished	

	OECD		Belgian statistical representative; mapping biotech activities in Belgium in order to provide suggestions for governmental policy makers	finished	
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Legend: x = paper available or in writing phase

Scientific consulting other countries

Contact	Institution	Start	Topic	Status	Papers	Country
Olga Savenije	University Medical Center Groningen – The Netherlands	2010	Epistasis analysis on latent class membership categorical variables using MB-MDR methodology	ongoing		The Netherlands
Lude Franke	University Medical Center Groningen	2009	Application of MB-MDR to expression trait values	ongoing		The Netherlands
Harold Snieder	University Medical Center Groningen – The Netherlands	2008	Statistical analysis of genetic data in twins using FBAT and MDR methodology	ongoing	x	The Netherlands
Fabian Schnitzler	Klinikum Grosshadern, Munich, Germany (formerly: UZ Gasthuisberg – Belgium)	2008	Pregnancy and the effect of IBD treatment regimens	finished	x	Germany

Legend: x = paper available or in writing phase

Social service / Consulting (< 2005)

E.g,

- ZOL: multivariate data analyses
- TIBOTEC –VIRCO: HIV longitudinal data analysis
- OESO /OECD: Mapping biotech activities in Belgium to adjust current policies
- HIS: Evaluation of the Health Interview Survey 1997
- DWTC: Non-response analysis and new sampling strategies

• ...

c) **Competence 3: Networking**

Personally established network

Contact	Institution	Start	Topic	Additional info	Country
<b>Inside Europe</b>					
Marc Zabeau	UGent Tech Transfer	2010	Integration of biological network approaches	General Manager	Belgium
Yves vande Peer	VIB UG	2009	Integrating bioinformatics interaction tools to detect epistasis in predictive models		Belgium
Geoffrey Henno	Per4mant Solutions	2009	Sales activities for Life Science supply and service companies, catalyzing the exchange of knowledge, ideas and technological expertise.	General Manager	Belgium
Guy Van Camp	University of Antwerp, Belgium	2009	CIDR grant on Genome-wide Association Analysis of otosclerose		Belgium
Wouter Van Gool	VIB RUG, Ghent	2008	Introduction of Statistical Genetics approaches in emerging technologies of life sciences	Integration Manager VIB	Belgium
Gert De Cooman	SYSTeMS research group RUG, Ghent	2008	Probabilistic modelling versus imprecise probability modelling: pros and cons in genetic screening		Belgium
Claus Bachert	University Hospital Ghent	2005	Common and differential properties of upper and lower airways disorders, in different ethnic groups	Preparation to NIH grant applications (in collaboration with Dr De Yun – University of Singapore)	Belgium
Séverine	UZ	2000	Real-life data	Gateway to the	Belgium

Vermeire / Paul Rutgeerts	Gasthuisberg, Leuven		problems leading to biometric applications and methodological developments in the context of IBD	International IBD Genetics Consortium	
Bob Vlietinck	KUL, Leuven	1999	Statistical Genetics and Complex Disease Analysis	Professeur émérite	Belgium
Andrew Bottomley	E.O.R.T.C. (European Organisation for Research and Treatment of Cancer) Brussels	1998	Quality of Life data in oncology		Belgium
Ronald Westra	Maastricht University	2010	Setting up exchange program in bioinformatics (First meeting: 11/6/2010 in Maastricht)	Leader Biomathematics & Bioinformatics DKE-Mathematics	The Netherlands
Olga Savenije	University Medical Center Groningen	2010	Epistasis analysis on latent class membership in asthmatics	Gateway to PIAMA Study data	The Netherlands
Marieke Pierik	Maastricht University	2009	Genetics of inflammatory bowel disease		The Netherlands
Andrew Stubbs	Erasmus MC Rotterdam	2009	Data analysis of alternative splicing microarrays  Interpretation and analysis of exon array analysis		The Netherlands
Lude Franke	University Medical Center Groningen	2009	Integrated analysis  Co-expression networks		The Netherlands
Aaron Isaacs	Erasmus MC Rotterdam	2008	Co-author on text book "A Roadmap to Genetic Association Studies: A user-oriented approach"		The Netherlands
Harold Snieder	University Medical Center	2008	Statistical analysis of genetic data in twins		The Netherlands

	Groningen				
Clara Elbers	University Medical Center Utrecht	2007	Genome-wide pathway analysis for complex disease analysis		The Netherlands
Siem Heisterkamp	RUG University of Groningen	2006	Pharmacogenomics	Senior Principal Statistician at Organon/part of Schering Plough Research Institute, Department of Research and Quantitative Sciences	The Netherlands
Yurii Aulchencko	Erasmus MC Rotterdam	2005	Family-based genetic association screening		
Peter van der Spek	Erasmus MC Rotterdam	2002	Bioinformatics in Medicine	Head of Bioinformatics Department and founder of the Organon bioinformatics group	The Netherlands
Giovanni Malerba	University Verona	2008	IgE in Verona families	Gateway to GEIRD study (PI: Roberto De Marco)	Italy
Giovanna Albertini	University Bologna	2008	IgE in Coner Study Bologna		Italy
Fabio Efficace	Mediterranean Institute of Hematology, Rome	2004	Quality of Life		Italy
Guadalupe Gómez Melis	UPC (Universitat Politècnica de Catalunya) Barcelona	2009	Erasmus exchange program with Montefiore  Spanish Biostatistical Network	Bilateral AGREEMENT between UPC and ULg for the academic years 2008-2013 Lifelong Learning programme: ERASMUS (signed in 2009)	Spain
Nuria Malats	CNIO (Centro	2006	Association tests and software for CNV	EU FP COMed consortium core	Spain

	Nacional de Investigaciones Oncológicas ) Madrid		analysis  MB-MDR bladder cancer proof of concept  Testing LeMoNe on bladder cancer data	member	
Malu Calle	University of Vic, Vic	2006	Biostatistical statistical genetics: developments of MDR based methodologies  Erasmus exchange program with Montefiore	Bilateral AGREEMENT between University of Vic and ULg for the academic years 2008-2013 Lifelong Learning programme: ERASMUS (signed in 2009)	Spain
Manolis Kogevinas	Institut Municipal d'Investigació Mèdica (IMIM-Hospital del Mar), Barcelona	2006	Genetics and epidemiology of asthma related phenotypes: data mining	Gateway to ECRHS and SAPALDIA studies	Spain
Nuria Perez	Fundacio de Lluita contra la SIDA / Universitat Politècnica de Catalunya, Barcelona	2005	Practical and theoretical concerns related to data below detection limits		Spain
Ivo Gut	Centre National de Génotypage , Paris	2010	Liaison activities between Barcelona (Spain) and Paris (France)	EU FP COMed consortium core member	France
Sophie Lebre	INSERM UMR 915	2009	Inferring changes in regulatory network structures from gene expression data		France
Florence Demenais	INSERM U794	2005	An integrated view on how to make sense of GWAs	Gateway to GABRIEL consortium  EU FP COMed	France

				consortium core member	
Marek Kowalski	Medical University of Lodz	2007	Genetics of IgE using family-based design	GA <sup>2</sup> LEN partner and data provider	Poland
Chris Haley	MRC Human Genetics	2009	Getting ready for genomewide epistatic association screening	EU FP COMed consortium core member  Joint efforts on raising funds for extensive collaboration between MRC and Ulg on epistasis	UK
Madan Babu	University of Cambridge	2009	Structural alterations and single nucleotide changes to better understand epistatic events		UK
Petra Wark	Imperial College (former University of Wageningen in the Netherlands)	2001	Addressing different aspects of the relationship between risk factors and molecular alterations in tumour tissue: multivariate and hierarchical latent variable models		UK
Andreas Ziegler	Universitaet zu Luebeck	2009	Statistical approaches to genetic epidemiology	EU FP COMed consortium core member	Germany
Bertram Müller-Myhsok	Max-Planck-Institute of Psychiatry, Munich	2009	Computational complexity issues of whole-genome analysis of epistasis		Germany
Stephan Weidinger	Technische Universitaet Muenchen	2009	Optimal strategies for GWAs and allergy related phenotypes	Gateway to CORA study	Germany
Anne-Laure Boulesteix	University of Munich (formerly: Sylvia Lawry Centre for MS Research)	2008	SNP-SNP interactions in genome-wide association studies		Germany
Michael	University	2004	Integrating stem cell	EU FP COMed	Germany

Rosbach	of Bonn		knowledge in disentangling the genetic basis of human complex diseases	consortium core member	
Murielle Bochud	Swiss School of Public Health, University of Lausanne	2006	Genetic epidemiology of cardiovascular risk factors		Switzerland
Erik Melen	Karolinska Institutet, Stockholm (currently: Harvard Channing Laboratories, Boston, USA)	2005	Evaluation of powerful methodologies to detect gene-gene interactions using asthma-related phenotypes	Gateway to BAMSE study	Sweden
Juni Palmgren	Medical Epidemiology and Biostatistics, Karolinska Institutet		PHOEBE Biobanking in Europe  Platform initiation	Director of the Wallenberg Consortium North (WCN) Bioinformatics platform.	Sweden
<b>Outside Europe</b>					
HSPH Alums Network	Harvard University	2009		Initiative of the Harvard School of Public Health Postdoctoral Association (PDA) about creating a network of former HSPH postdoctoral researchers	USA
Winston Hide	Harvard School of Public Health, Boston	2009	Biological network systems	Second affiliation: SA National Bioinformatics Institute, University of Western Cape near Cape Town, South Africa	USA
Chris Huttenhouwer	Harvard School of Public	2009	Computational Biology and Bioinformatics for		USA

	Health, Boston		large collections of genomic data		
Marylyn Ritchie	Vanderbilt University	2008	MDR and MB-MDR developments	Envisaged to exchange post- docs in the future (first visitor arriving in June 2010)	USA
Fernando Martinez	Arizona Respirator y Center, University of Arizona, Tuscon	2008	Clinical interpretation on asthma data from 3 networks: CAMP, CARE and ACRN  Epistasis screening on aforementioned Share Consortium data	Gateway to dbGaP SNP Health Association Resource (SHARe) Asthma Resource Project (SHARP) [request #4361-1 approved: 2009]	USA
Todd Edwards	Vanderbilt University (formerly Miami Institute of Human Genomics)	2008	MDR extensions	Gateway to AFDS (Amish Family Diabetes Study) data  Gateway to Parkinson's disease data	USA
Benjamin Raby	Harvard Medical School, Boston	2003	CAMP: Childhood Asthma Management Program		USA

### 6th Framework European Programme: Network of Excellence GA2LEN

My position in the European Network GA<sup>2</sup>LEN has allowed me to obtain a better view on the general functioning of networks on an international scale, on European regulations, on the different layers of a network, on why every single unit within a network is important in order to guarantee a global success.

My responsibilities during the period 2005-2007:

- Specific management activities as a project manager for the University Ghent (e.g. managing official incoming and outgoing documents and contracts, Figure 1)
- Involvement in global non-scientific work packages such as structural integration, training and education, exchange programs, ...
- Involvement in scientific work packages, offering statistical insights and expertise

*Claus Bachert (work package leader)(Belgium)*

Involvement includes:

- Draft project proposals for GA<sup>2</sup>LEN sustainability:
  - FP7 (European 7<sup>th</sup> Framework Programme)
  - Crédit de démarrage ULg: R.CFRA.0141
- Assistance in questionnaire development issues based on experience at the EORTC (European Organization of Research and Treatment of Cancer) data management center

*Thomas Keil (work package member )(Germany)*

Involvement includes:

- Honorary researcher in (bio-)statistics (the analysis of multi-center cohort data)
- Active participation in WP 1.5 research meetings

*Francine Kaufman (work package leader)(France)*

Involvement includes:

- Participation in meetings on “severe asthma”
- Honorary researcher in genetic linkage and association analysis
- Discussion meetings with Prof. Florence Demenais (INSERM, France) on how to move forward the field of genetic epidemiology

*Manolis Kogevinas (team leader)(Spain)*

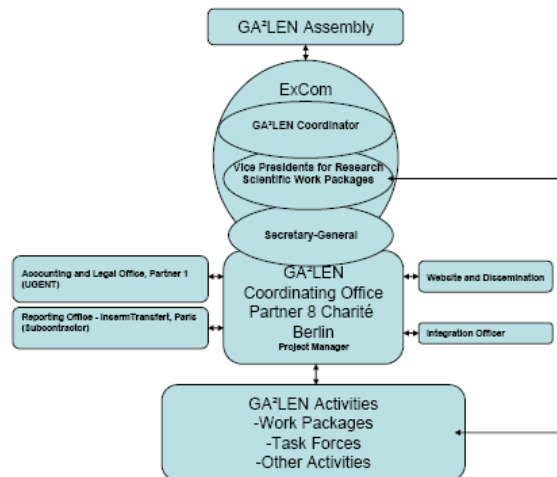
Involvement includes:

- Honorary researcher in genetic association analysis:
  - co-author of submitted publication
  - research stays to assist in data analysis
  - jointly developing gene-gene interaction methodology
  - jointly developing strategies to deal with informative missing marker information

*Marek Kowalski (team leader)(Poland)*

Involvement includes:

- Setting up a collaborative effort to use family-based genetic association tests on multiple IgE measurements (Crédit de démarrage ULg: R.CFRA.0141)



Figur 1: Managementstructure in the GA<sup>2</sup>LEN consortium

#### d) Competence 4: “Woman of enterprise”

##### Founding a new SME

- I was co-founder, co-owner and scientific director of the SME StepGen, cvba, from January 2006 till January 2009. During this period, StepGen was acknowledged as a spin-off of the Ghent University and as an official Collaborating Centre to GA<sup>2</sup>LEN.
- In the meantime the first efforts are being made to set up a new company under the auspices of ULg: the consultancy charter which serves as a basis can be downloaded from [www.montefiore.ulg.ac/~kvansteen](http://www.montefiore.ulg.ac/~kvansteen).

#### e) Competence 5: Critical attitude

##### Referee jobs for:

- American Journal of Human Genetics
- American Journal of Respiratory and Critical Care Medicine
- American Journal of Epidemiology
- Applied Statistics.
- Australian, New Zealand Journal of Statistics
- Bioinformatics
- Biometrical Journal
- BMC Genetics
- Briefings in Bioinformatics
- Computer methods and programs in biomedicine
- European Journal of Epidemiology
- European Journal of Human Genetics
- Human Genetics
- Human Heredity
- Journal of Allergy and Clinical Immunology

- Journal of clinical pathology and forensic medicine
- New England Journal of Medicine
- Nucleic Acids Research
- Respiratory Medicine
- Statistical Applications in Genetics and Molecular Biology Statistics in Medicine

Associate Editor of Statistics in Medicine – Statistical Genetics  
 Statistical consulting Editor of “Hypertension”  
 Editorial Associate to “Annotated Research”  
 Editorial Board\_Member of “Allergy”

Referee jobs for funding agencies:

- FWO Vlaanderen (Fonds Wetenschappelijk Onderzoek) / FNRS (Fonds de la Recherche Scientifique)
- Admission to PhD or post-doc programs in Africa, Australia, Canada, Switzerland, UK
- Pre-doctoral grants
- Post-doctoral grants
- Israel Science Foundation - grant proposal no 1190/06-75.6
- Lectureship in Africa
- “Prijs Ontwikkelingssamenwerking” (external academic referee)

**f) Competence 6: Communicative and listening comprehension**

Apart from teaching and student coaching activities, I have made several contributions to the dissemination of science, using different channels, including:

- StepGen CVBA (as a member of BioFlanders).
- UZ Ghent consultant (via a customer oriented approach highlighting the potential of available data).
- BioScope-IT involvement (participation in work shops and bridging the gap between industry and academia).
- GA<sup>2</sup>LEN (involvement in work package on dissemination).

### III.5. Miscellaneous

#### a) Computer skills:

- Statistical / Computing environments: extensive use of SAS, SPlus and R, Gauss, FBAT and PBAT genetic software; STATA, SPSS, Genehunter, MEGA2 (Manipulation Environment for Genetic Analyses)
- Computer languages: Pascal, Perl
- Applications: LaTeX, common Windows database, spreadsheet and presentation software
- Operating systems: Windows, UNIX/Linux

#### b) Beta Tester for software packages:

- MDR-PDT
- Golden Helix – PBAT modules

#### c) Communication skills:

Languages (other than Dutch and English):

- 3rd cycle educational training: Russian elementary knowledge, LBC-NVK Sint-Niklaas 1991-1993
- French: 3rd language.
- German: 4th language.

#### d) Breaking down boundaries:

- Since 2007 co-operator with the “DREAM” project to give Flemish schools and students the opportunity to get acquainted with ULg-life.  
“Dream est un projet destiné aux jeunes de 16-19 ans et leurs professeurs. L’ objectif est d’aider les jeunes à construire leur avenir professionnel sur base de leurs talents, de leur passions et de leur rêves. Car “la passion, c’est le plus beau mmétier du monde”!  
Le DREAM Day : une visite-rencontre entre jeunes et ‘témoins’ (des professionnels enthousiastes) sur leur lieu de travaille, en mars.”  
([www.dreamday.be](http://www.dreamday.be))

Professional evaluation based on the “Interpretation Manual for Communication Styles Technology” developed by Paul Mok, has revealed that I have developed a communication style which allows me to excel in:

- **planning,**
- **scope development,**
- **strategic thinking and planning,**
- **creativity.**