

Curriculum Vitae: Kristel Van Steen

University of Liège
 Dept of Electrical Engineering and Computer Science
 (Bioinformatics – Statistical Genetics)
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 Belgium
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Academic Training

- 2005 PhD in Medical Sciences – Biomedical Sciences, Universiteit Hasselt / Universiteit Maastricht
 1999 MS in Biostatistics, Limburgs Universitair Centrum (LUC), high distinction
 1996 PhD in Science - Mathematics, Universiteit Gent, highest distinction
 1991 MS in Mathematical Sciences, Universiteit Gent (RUG), highest distinction

Professional Appointments

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 ² 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 ² LEN	15/6/2005	31/12/2005	Post-doctoral scientific collaborator – Project Manager GA ² LEN Ghent	100

			University	
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	31/1/1998	Assistant Geometry	100
	1/2/1992	31/8/1994		50

Computer Skills

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

Teaching Experience

- 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^{de} 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, lineare 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).

Research

Main research interests

Statistical Genetics

- 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

Biostatistics

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

Mathematics

- Finite geometry
- Affine and Euclidean buildings
- Trees
- Algebraic topology

Publications

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): 972-980.e2.
- 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, Bickeböller 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, Fidler 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, Fidler 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, Zmierzczak 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, Fidler 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.
- Efficace F, Therasse P, Piccart M, Coens C, **Van Steen K**, Welnicka-Jaskiewicz M, Cufer T, Dyczka J, Lichinitser M, Shepherd L, De Haes JC, Sprangers MA, Bottomley A (2004) Health-related quality of life parameters as prognostic factors in a non-metastatic breast cancer population. An international multicenter study, *Journal of Clinical Oncology* 22 (16): 3381-3388.
- Esters N, Pierik M, **Van Steen K**, Vermeire S, Claessens G, Joossens S, Vlietinck R, Rutgeerts P (2004) Transmission of CARD15 (NOD2) variants within families of patients with inflammatory bowel disease, *Am J Gastroenterol* 99 (2): 299-305.
- Franchimont D, Vermeire S, EL Housni H, Pierik M, **Van Steen K**, Gustot T, Quertinmont E, Abramowicz M, Van Gossum A, Deviere J, Rutgeerts P (2004) Deficient Host bacteria Interactions in Inflammatory Bowel Disease: the Toll - like Receptor (TLR)-4 Asp299Gly Polymorphism is Associated with Crohn's Disease and Ulcerative Coliti, *Gut* 53 (7): 987-992
- Joossens S, Daperno M, Shums Z, **Van Steen K**, Goeken J, Trapani C, Norman G, Godefridis G, Claessens G, Pera A, Pierik M, Vermeire S, Rutgeerts P and Bossuyt X (2004) Inter-assay and inter-observer variability in the detection of anti-neutrophil cytoplasmic antibodies in patients with ulcerative colitis, *Clin Chem* 50 (8): 1422-1425.
- Joossens S, Vermeire S, **Van Steen K**, Godefridis L, Claessens G, Pierik M, Vlietinck R, Aerts R, Rutgeerts P and Bossuyt X (2004) Pancreatic autoantibodies in inflammatory bowel disease, *Inflammatory Bowel Disease* 10 (6): 771-777.
- Lange C, **Van Steen K**, Andrew T, Lyon H, Demeo DL, Raby B, Murphy A, Silverman EK, Macgregor A, Weiss ST, Laird NM (2004) A family-based association test for repeatedly measured quantitative traits adjusting for unknown environmental and/or polygenic effects, *Statistical Applications in Genetics and Molecular Biology* 3 (1): Article 17.
- Murphy A, **Van Steen K**, Lange C (2004) On missing phenotype data in multivariate family based association tests: FBAT-GEE-IMP and imputation strategies based on the EM-algorithm, the DA-algorithm and the conditional mean model, *Far East J. Theo. Stat.* 13 (2): 175-188.
- Pierik M, Vermeire S, **Van Steen K**, Joossens S, Claessens G, Vlietinck R, Rutgeerts P (2004) Tumour necrosis factor- α receptor 1 and 2 polymorphisms in inflammatory bowel

- disease and their association with response to infliximab. *Alimentary Pharmacology & Therapeutics* 20: 303-310.
- **Van Steen K**, Tahri N, Molenberghs G (2004) Introducing the multivariate Dale model in population based genetic association studies, *Biometrical Journal = Biometrisches Zeitschrift* 46 (2): 187-202.
 - Vermeire S, Rutgeerts P, **Van Steen K**, Joossens S, Claessens G, Pierik M, Peeters M, Vlietinck R (2004) Genome-wide scan in a Flemish inflammatory bowel disease population: support for the IBD4 locus, population heterogeneity and epistasis, *Gut* 53 (7): 980-986.
 - Bottomley A, Thomas R, **Van Steen K**, Flechtner H, De Graeff A (2003) Guidelines for the use of epoetin: have quality-of-life benefits been proven, *J Clin Oncol* 21 (11): 2223; author reply 2224-2225
 - 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.
 - Joossens S, Van Steen K, Vermeire SV, Reinisch W, Colombel JF, Rutgeerts P (2003) Reply to: The value of serologic markers in indeterminate colitis: A prospective follow-up study. *Gastroenterology* 125 (3): 999-1000.
 - Vermeire S, Noman M, Van Assche G, Baert F, **Van Steen K**, Esters N, Joossens S, Bossuyt X, Rutgeerts P (2003) Autoimmunity associated with anti-tumor necrosis factor alpha treatment in Crohn's disease: a prospective cohort study, *Gastroenterology* 125 (1): 32-39.
 - Bottomley A, Thomas R, **Van Steen K**, Fletchner H, Dzulbegovic B (2002) Erythropoietin improves quality of life – a response, *Lancet Oncol* 3 (9): 527.
 - Joossens S, Reinisch W, Vermeire S, Sendid B, **Van Steen K**, Poulain D, Peeters M, Geboes K, Bossuyt X, Vandewalle P, Oberhuber G, Vogelsang H, Rutgeerts P, Colombel JF (2002) The Value of Serologic Markers in Indeterminate Colitis: A Prospective Follow-up Study, *Gastroenterology* 122 (5): 1242-1247.
 - Bottomley A, Thomas R, **Van Steen K**, Fletchner H, Dzulbegovic B (2002) Human recombinant erythropoietin and quality of life: a wonder drug or something to wonder about, *The lancet Oncology*, 3 (3): 145-153.
 - **Van Steen K**, Curran D, Kramer J, Molenberghs G, Van Vreckem A, Bottomley A, Sylvester R (2002) Multicollinearity in Prognostic Factor Analyses using the EORTC QLQ-C30: Identification and Impact on Model Selection, *Statistics in Medicine* 21 (24): 3865-3884.
 - **Van Steen K**, Curran D, Molenberghs G (2001) Sensitivity Analysis of Longitudinal Binary Quality of Life Data With Dropout: An example using the EORTC QLQ-C30, *Statistics in Medicine* 20 (24): 3901-3920.
 - **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.
 - 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 (2): 115-122.
 - 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 (2): 113-133.
 - **Van Steen K** (1999) Characterizations by Automorphism Groups of Some Rank 3 Buildings III. Moufang-Like Conditions, *Geometriae Dedicata* 74 (3): 225-240.

- 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 (2): 119-142.
- Van Maldeghem H, **Van Steen K** (1997) Moufang Affine Buildings have Moufang Spherical Building at Infinity, *Glasgow Math. J.* 39 (3): 237-241.

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, Glassee 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, Fidler 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, Arsanj A, Puig C, Herbarth O, **Van Steen K**, Willich SN, Wahn U, Lau S, Keil T, for the working group of GA²LEN 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, Cleynen I, Schnitzler F, Fidler 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 GA2LEN-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, Jarnerot 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.
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- 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.
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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.
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- 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*.
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- Jürgens M, Schnitzler F, Cleynen I, Fidler H, **Van Steen K**, Mahachie J, Ballet V, Noman M, Hoffman I, Van Assche GA, Rutgeerts PJ, Vermeire S. Is CRP predictive for mucosal healing in CD patients under infliximab therapy? *Gut*

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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 GA²LEN 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 Wanseele 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.

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
- Cleyne 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 Presentations (Statistics)

Verbal – international conferences

- 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.

Verbal – other scientific meetings

- 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, Universität 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 Institute Municipal d’Investigacio Medica (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, KULeuven, 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

Other Scientific Activities

Referee jobs for journals

- 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)

Scientific consulting for several institutions, including

- Centre for Research in Environmental Epidemiology (CREAL) and the Municipal Institute of Medical Research (IMIM), Barcelona, Spain
- Global allergy and asthma European network of excellence (ga²len) (e.g., work package WP1.5 on birth cohorts)
- Bioinformatics Unit - Department of Molecular Genetics VIB8 at the University of Antwerp
- Department of gastro-enterology at the Leuven University Hospital Gasthuisberg
- Departments at the University Hospital of Ghent (e.g., Department of Internal Medicine - Endocrinology Section, Center for Medical Genetics Ghent) or at the University of Ghent (e.g., Faculty of Veterinary Medicine)
- EPF (European Panel Federation)
- Innogenetics nv
- Bioscope-IT
- DWTC/OSTC
- EORTC data center; quality of life unit (+ external principal statistician for several cancer studies)
- Institute of Hygiene and Epidemiology (IHE)
- Department of social sciences at KUL
- Tibotec-Virco

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)

Recent applications for funding with a positive outcome:

- FNRS post-doctoral research project (Tom Cattaert; starting academic year 2009-2010): Development of Multifactor Dimensionality Reduction (MDR) techniques to detect gene-gene and gene-environment interactions in complex diseases
- Crédit de démarrage at the university of Liège: Association génétique des taux d'IgE spécifiques totaux et sériques dans des échantillons de populations caucasiennes et de familles mis en commun (accepted in 2008)
- FWO grant proposal (accepted in 2007): Flemish follow-up study to ECRHS-II; joint effort between Antwerp University (promoter Dr Joost Weyler) and Ghent University (promoter Dr P Van Cauwenberge; co-promotor Dr Kristel Van Steen)
- Research grant as guest professor to cover 4 months of research in 2008 at the Departament de Biologia de Sistemes, Universitat de Vic, Barcelona, Spain (BEQUES DE RECERCA PER A PROFESSORS/RES I INVESTIGADORS/RES VISITANTS A CATALUNYA (PIV 2007) - Núm. Expedient: 2007 PIV 10018).

Memberships – scientific organizations

- Member of the International Biometrics Society (IBS)
- Member of the Belgian Statistical Society (BVS) and Quetelet Society
- Member of the International Genetic Epidemiology Society (IGES)
- Member of the American Society of Human Genetics (ASHG)
- Member of the Statistical Modeling Society
- Member of the European Society of Human Genetics (ESHG)