

Curriculum Vitae: Kristel Van Steen

University of Liège
 Dept of Electrical Engineering and Computer Science
 (Bioinformatics – Statistical Genetics)
 Grande Traverse, 10 - Montefiore Institute - B28
 4000 Liège 1
 Belgium
 Phone : +32 4 366 2692
 E-mail: kristel.vansteen@ulg.ac.be

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 and computer science	1/1/2008	-	Associate Professor (confirmed 1/1/2010)	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	30/9/2011	(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 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

Computer Skills

- Statistical / Computing environments: e.g., extensive use of SAS, SPlus and R, Gauss, FBAT and PBAT genetic software, epistasis analysis software, GWAs 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

Publications

Articles in internationally reviewed journals

In 2013:

1. Bousquet J, Anto J, Sunyer J, Nieuwenhuijsen M, Vrijheid M, Keil T; MeDALL Study Group; CHICOS Study Group; ENRIECO Study Group; **GA²LEN Study Group**. Pooling birth cohorts in allergy and asthma: European Union-funded initiatives – a MeDALL, CHICOS, ENRIECO, and GA²LEN joint paper (2013) Int Arch Allergy Immunol. 161(1):1-10. doi: 10.1159/000343018.

2. Hoefkens E, Van Steen K, Mahachie John JM, Nys K, Van Assche G, Agostinis P, Rutgeerts P, Vermeir S and Cleynen I (2013). Crohn's disease susceptibility genes involved in microbial sensing, autophagy and endoplasmic reticulum (ER) stress and their interaction. Accepted in *Autophagy*
3. Mahachie John JM, Van Lishout F, Gusareva ES, **Van Steen K** (2013) A robustness study of parametric and non-parametric tests in model-based multifactor dimensionality reduction for epistasis detection. *BioData Min.* 6(1):9. doi:10.1186/1756-0381-6-9.
4. Salvatore S, Salvatoni A, Van Berkel M, **Van Steen K**, Unmarino D, Ghanma A, Hauser B, Vandenplas Y (2013) Esophageal Impedance Baseline is Age-Dependent. *J Pediatr Gastroenterol Nutr.* 2013 May 20. [Epub ahead of print]
5. Van Lishout F, Mahachie John JM, Gusareva ES, Urrea V, Cleynen I, Théâtre E, Charlotiaux B, Calle ML, Wehenkel L, **Van Steen K** (2013) An efficient algorithm to perform multiple testing in epistasis screening. *BMC Bioinformatics.* 14:138. doi: 10.1186/1471-2105-14-138.
6. Wei Z, Wang W, Bradfield J, Li J, Cardinale C, Frackelton E, Kim C, Mentch F, **Van Steen K**, Visscher PM, Baldassano RN, Hakonarson H; the International IBD Genetics Consortium (2013) Large Sample Size, Wide Variant Spectrum, and Advanced Machine-Learning Technique Boost Risk Prediction for Inflammatory Bowel Disease. *Am J Hum Genet.* doi:pil: S0002-9297(13)00215-2.10.1016/j.ajhg.2013.05.002. [Epub ahead of print]

In 2012:

1. Aschard H, Lutz S, Maus B, Duell EJ, Fingerlin T, Chatterjee N, Kraft, **Van Steen K** (2012) Challenges and Opportunities in Genome-Wide Environmental Interaction (GWEI) studies. *Hum Genet.* 131(10):1591-613.
2. Bachert C, **Van Steen K**, Zhang N, Holtappels G, Cattaert T, Maus B, Buhl R, Taube C, Korn S, Kowalski M, Bousquet J, Howarth P (2012) Specific IgE against *Staphylococcus aureus* enterotoxins: an independent risk factor for asthma. *J Allergy Clin Immunol.* 130(2):376-81.e8.
3. Bessissow T, Lemmens B, Ferrante M, Bisschops R, **Van Steen K**, Geboes K, Van Assche G, Vermeire S, Rutgeerts P, De Hertogh G (2012) Prognostic value of serologic and histologic markers on clinical relapse in ulcerative colitis patients with mucosal healing. *Am J Gastroenterol.* 107(11):1684-92.
4. De Greef E, Hoffman I, D'Haens G, Van Biervliet S, Smets F, Scaillon M, Dewit O, Peeters H, Paquot I, Alliet P, Arts W, Hauser B, Vermeire S, Van Gossum A, Rahier JF, Etienne I, Louis E, Coche JC, Mahachie John J, **Van Steen K**, Veereman G; IBD working group of the Belgian Society of Pediatric Gastroenterology, Hepatology and Nutrition (BeSPGHAN); Belgian IBD Research and Development Group (BIRD) (2012) Safety and cost of infliximab for the treatment of Belgian pediatric patients with Crohn's disease. *Acta Gastroenterol Belg.* 75(4):425-31.
5. De Lobel L, Thijs L, Kouznetsova T, Staessen J, **Van Steen K** (2012) A Family-Based Association Test to Detect Gene-Gene Interactions in the Presence of Linkage. *Eur J Hum Genet.* 20(9):973-80.
6. Haerynck F, **Van Steen K**, Cattaert T, Loeys B, Van Daele S, Schelstraete P,

Claes K, Van Thielen M, De Canck I, Mahachie John JM, De Baets F (2012). Polymorphisms in the lectin pathway genes as a possible cause of early chronic *Pseudomonas aeruginosa* colonization in cystic fibrosis patients. *Hum Immunol.* 73(11):1175-83.

7. 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, Asarnoj A, Puig C, Herbarth O, Mahachie John JM, **Van Steen K**, Willich SN, Wahn U, Lau S, Keil T; GALEN WP 1.5 'Birth Cohorts' working group (2012) Does pet ownership in infancy lead to asthma or allergy at school age? Pooled analysis of individual participant data from 11 European birth cohorts. *PLoS One.* 7(8):e43214.
8. Mahachie John JM, Cattaert T, Van Lishout F, Gusareva ES, **Van Steen K** (2012) Lower-Order Effects Adjustment in Quantitative Traits Model-Based Multifactor Dimensionality Reduction. *PLoS ONE* 7(1): e29594. doi:10.1371/journal.pone.0029594
9. Márquez L, Shen C, Cleynen I, De Hertogh G, **Van Steen K**, Machiels K, Perrier C, Ballet V, Organe S, Ferrante M, Henckaerts L, Galicia G, Rutgeerts P, Ceuppens JL, Vermeire S (2012). Effects of haptoglobin polymorphisms and deficiency on susceptibility to inflammatory bowel disease and on severity of murine colitis. *Gut.* 61(4):528-34.
10. Op De Beéck K, Maes L, Van den Bergh K, Derua R, Waelkens E, **Van Steen K**, Vermeersch P, Westhovens R, De Vlam K, Verschueren P, Hooijkaas H, Blockmans D, Bossuyt X. (2012) Heterogeneous nuclear ribonucleoproteins as targets of autoantibodies in systemic rheumatic diseases. *Arthritis Rheum.* 2012 Jan;64(1):213-21
11. Vieira MC, Miyague NI, Van Steen K, Salvatore S, Vandenplas Y. (2012) Effects of Domperidone on QTc Interval in Infants. *Acta Paediatr.* Jan 7. doi: 10.1111/j.1651-2227.2012.02593.x. [Epub ahead of print]
12. **Van Steen K** (2012) Travelling the world of gene-gene interactions – invited submission to Briefings in Bioinformatics (*invited paper*). *Brief Bioinform.* Jan;13(1):1-19. Epub 2011 Mar 26

In 2011:

1. Arijis 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 (2011) Mucosal gene expression of cell adhesion molecules, chemokines and chemokine receptors in patients with inflammatory bowel disease before and after infliximab treatment. *Am J Gastroenterol* 106: 748–761.
2. Breynaert C, Ferrante M, Fidler M, **Van Steen K**, Noman M, Ballet V, Vermeire S, Rutgeerts P, Van Assche G (2011) Tolerability of shortened infliximab infusion times in patients with inflammatory bowel diseases: a single center cohort study. *Am J Gastroenterol* 106:778–785.
3. Cattaert T, Calle ML, Dudek SM, Mahachie John JM, Van Lishout F, Urrea V, Ritchie MD, **Van Steen K** (2011) Model-Based Multifactor Dimensionality Reduction for detecting epistasis in case-control data in the presence of noise . (invited paper of **K**

- Van Steen** as expert entry to special issue on epistasis). *Ann Hum Genet.* 2011 Jan;75(1):78-89
4. Gevaert P, Van Bruaene N, Cattaert T, **Van Steen** K, Van Zele T, Acke F, De Ruyck N, Blomme K, Sousa AR, Marshall RP, Bachert C. (2011) Mepolizumab, a humanized anti-IL-5 mAb, as a treatment option for severe nasal polyposis. *J Allergy Clin Immunol.* 2011 Nov;128(5):989-995.e8. Epub 2011 Sep 28.
 5. Henckaerts L, Cleynen I, Brinar M, Mahachie John JM, **Van Steen** K, Rutgeerts P, Vermeire S (2011) Genetic variation in the autophagy gene ULK1 and risk for Crohn's disease. *Inflamm Bowel Dis.* Jun;17(6):1392-7
 6. Joossens M, Huys G, **Van Steen** K, Cnockaert M, Vermeire S, Rutgeerts P, Verbeke K, Vandamme P, De Preter V (2011) High-throughput method for comparative analysis of denaturing gradient gel electrophoresis profiles from human fecal samples. *FEMS Microbiol Ecol.* 2011 Feb;75(2):343.
 7. 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 (2011) Levels of C-reactive Protein Are Associated With Response to Infliximab Therapy in Patients With Crohn's Disease. *Clinical Gastroenterology and Hepatology* 9(5): 421-427.
 8. Mahachie John JM, Cattaert T, Van Lishout F, **Van Steen** K (2011) Model-Based Multifactor Dimensionality Reduction to detect epistasis for quantitative traits in the presence of error-free and noisy data. *European Journal of Human Genetics* 19, 696-703.
 9. Mahachie John JM, Cattaert T, De Lobel L, Van Lishout F, Empain A, **Van Steen** K (2011) Comparison of genetic association strategies in the presence of rare alleles. *BMC Proceedings*, 5(Suppl 9):S32
 10. Márquez L, Shen C, Cleynen I, De Hertogh G, **Van Steen** K, Machiels K, Perrier C, Ballet V, Organe S, Ferrante M, Henckaerts L, Rutgeerts P, Ceuppens J, Vermeire S (2011) Effects of Haptoglobin polymorphisms in susceptibility to Inflammatory Bowel Disease and in triggering murine colitis. *Gut* 61(4): 528-534
doi:10.1136/gut.2011.240978
 11. Moens LN, De Rijk P, Reumers J, Van den Bossche MJ, Glassee W, De Zutter S, Lenaerts AS, Nordin A, Nilsson LG, Medina Castello I, Norrback KF, Goossens D, **Van Steen** K, Adolfsson R, Del-Favero J. (2011) Sequencing of DISC1 Pathway Genes Reveals Increased Burden of Rare Missense Variants in Schizophrenia Patients from a Northern Swedish Population. *PLoS ONE* 6(8): e23450.
doi:10.1371/journal.pone.0023450
 12. Schnitzler F, Fidler H, Ferrante M, Ballet V, Noman M, Van Assche G, Spitz B, Hoffman I, **Van Steen** K, Vermeire S, Rutgeerts P (2011) Outcome of pregnancy in women with inflammatory bowel disease treated with infliximab. *Inflamm Bowel Dis.* 2011 Sep;17(9):1846-54.
 13. **Van Steen** K and Slegers K (2011) A report of the 1st biennial meeting on Capita Selecta in Complex Disease Analysis (CSCDA2010), Leuven, Belgium, August 25-27, 2010. *Annals of Human Genetics* 75(4): 554-557.
 14. **Van Steen** K (2011) Perspectives on Large-Scale Multi-Stage Family-Based Association Studies (*invited paper*) *Stat Med.* Aug 15;30(18):2201-21 DOI: 10.1002/sim.4259.

15. **Vermeulen N**, Vermeire S, **Van Steen K**, Arijs I, Michiels G, Ballet V, Schuit F, Van Lommel L, Rutgeerts P, Bossuyt X (2011) Identification of novel antibodies in inflammatory bowel disease by protein microarray. *Inflamm Bowel Dis*;17:1291–1.
16. **Ziegler A**, **Van Steen K**, Wellek S (2011) Investigating Hardy-Weinberg equilibrium in case-control or cohort studies or meta-analysis. *Breast Cancer Res Treat* 128(1):197-201.

For more information, see

[ORBI full publication link](#)

[Google scholar Citations link](#)

Awards & distinctions

- Beques de recerca per a professors/res i investigadors/res visitants a catalunya (piv 2007) - núm. expedient: 2007 piv 10018, "Strategies for the identification of genetic variability associated with complex phenotypes.", Host Institute: University of Vic, Spain (duration: 4 months)
- Ambassador for Belgium for International Genetic Epidemiology Society (IGES)

Running research contracts

- **FP7-PEOPLE-2012-ITN** (Grant Agreement Number: 316861): "Machine Learning for Personalized Medicine" (MLPM2012)
Node leader
1 FTE PhD student located in Liège, 1 FTE PhD student for Liège but located in Tübingen
- **FNRS-FRFC** Semaphore ID ID 14689895: 2013-2017. Foresting in Integromics Inference (promoter)
Operating costs: 60,000€
Supporting operating costs: 20,000€
- **FNRS-FRFC** Convention no 2.4609.11 (1906648): 2010-2014. Integrated complex traits epistasis kit (promoter)
Equipment: 68,000€
Functioning: 30,000€
- **IST Network of Excellence** IST-2007-216886: 2008-2013. PASCAL2: Analysis, Statistical Modelling and Computational Learning (team member partner site)

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

Editorial Associate to “Annotated Research”

Editorial Board_Member of “Allergy”