

## Curriculum Vitae

### Personal information

Geert Molenberghs

### Work experience

1. Employer: KU Leuven
  - Start date: 102007
  - End date:
  - Position: Full Professor
  - Activities:
  - Country: Belgium
2. Employer: Universiteit Hasselt
  - Start date: 011994
  - End date:
  - Position: Full professor
  - Activities:
  - Country: Belgium

### Education and training

1. Subject: Universiteit Antwerpen
  - Start date: 011993
  - End date:
  - Qualification: PhD
  - Organisation: PhD in Biostatistics
  - Country: Belgium

### Additional information

#### Publications

Verbeeck, J., Faes, C., Neyens, T., Hens, N., Verbeke, G., Deboosere, P., Molenberghs, G. (2021). A linear mixed model to estimate COVID\_19-induced excess mortality. *BIOMETRICS*. doi: 10.1111/biom.13578 Lemmens, S., Luyts, M., Gerrits, N., Ivanova, A., Landtmeeters, C., Peeters, R., Simons, A.S., Vercauteren, J., Sunaric-Megevand, G., Van Keer, K., Molenberghs, G., De Boever, P., Stalmans, I. (2021). Age-related changes in the fractal dimension of the retinal microvasculature, effects of cardiovascular risk factors and smoking behaviour. *ACTA OPHTHALMOLOGICA*. doi: 10.1111/aos.15047 Open Access Goudman, L., Molenberghs, G., Duarte, R.V., Moens, M. (2021). The Influence of Missing Data on Disabilities in Patients Treated with High\_Dose Spinal Cord Stimulation: A Tipping Point Sensitivity Analysis. *J Clin Med*, 10 (21). doi: 10.3390/jcm10214897 Open Access Bruyndonckx, R., Coenen, S., Adriaenssens, N., Versporten, A., Monnet, D.L., Goossens, H., Molenberghs, G., Weist, K., Hens, N. (2021). Analysing the trend over time of antibiotic consumption in the community: a tutorial on the detection of common change\_points. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 79\_85. doi: 10.1093/jac/dkab180 Open Access Adriaenssens, N., Bruyndonckx, R., Versporten, A., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Quality appraisal of antibiotic consumption in the community, European Union/European Economic Area, 2009 and 2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 60\_67. doi: 10.1093/jac/dkab178 Open Access Bruyndonckx, R., Adriaenssens, N., Hens, N., Versporten, A., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of penicillins in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 14\_21. doi: 10.1093/jac/dkab173 Open Access Versporten, A., Bruyndonckx, R., Adriaenssens, N., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of cephalosporins in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 22\_29. doi: 10.1093/jac/dkab174 Open Access Bruyndonckx, R., Hoxha, A., Quinten, C., Ayele, G.M., Coenen, S., Versporten, A., Adriaenssens, N., Muller, A., Heuer, O., Monnet, D.L., Goossens, H., Molenberghs, G., Weist, K., Hens, N. (2021). Change\_points in antibiotic consumption in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 68\_78. doi: 10.1093/jac/dkab179 Open Access Versporten, A., Bruyndonckx, R., Adriaenssens, N., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of tetracyclines, sulphonamides and trimethoprim, and other antibacterials in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 45\_59. doi: 10.1093/jac/dkab177 Open Access Bruyndonckx, R., Adriaenssens, N., Versporten, A., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of antibiotics in the community, European Union/European Economic Area, 1997\_2017: data collection, management and analysis. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 2\_6. doi: 10.1093/jac/dkab171 Open Access Adriaenssens, N., Bruyndonckx, R., Versporten, A., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of quinolones in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 37\_44. doi: 10.1093/jac/dkab176 Open Access Adriaenssens, N., Bruyndonckx, R., Versporten, A., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of macrolides, lincosamides and streptogramins in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 30\_36. doi: 10.1093/jac/dkab175 Open Access Bruyndonckx, R., Adriaenssens, N., Versporten, A., Hens, N., Monnet, D.L., Molenberghs, G., Goossens, H., Weist, K., Coenen, S. (2021). Consumption of antibiotics in the community, European Union/European Economic Area, 1997\_2017. *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*, 76, 7\_13. doi: 10.1093/jac/dkab172 Open Access Florez, A.J., Keilegom, I.V., Molenberghs, G., Verhasselt, A. (2021). Quantile regression for longitudinal data via the multivariate generalized hyperbolic distribution. *STATISTICAL MODELLING*, Art.No. ARTN 1471082X211015454. doi: 10.1177/1471082X211015454 van der Elst, W., Abad, A.A., Coppenolle, H., Meyvisch, P., Molenberghs, G. (2021). The individual\_level surrogate threshold effect in a causal\_inference setting with normally distributed endpoints. *PHARMACEUTICAL STATISTICS*. doi: 10.1002/pst.2141 Pedersen, M.G., Aerts, C., Papics, P.I., Michielsen, M., Gebruers, S., Rogers, T.M., Molenberghs, G., Burssens, S., Garcia, S., Bowman, D.M. (2021). Internal mixing of

rotating stars inferred from dipole gravity modes. *NATURE ASTRONOMY*, 5 (7), 715\_722. doi: 10.1038/s41550\_021\_01351\_x Open Access Mamouris, P., Nassiri, V., Molenberghs, G., van den Akker, M., van der Meer, J., Vaes, B. (2021). Fast and optimal algorithm for case\_control matching using registry data: application on the antibiotics use of colorectal cancer patients. *BMC MEDICAL RESEARCH METHODOLOGY*, 21 (1), Art.No. ARTN 62. doi: 10.1186/s12874\_021\_01256\_3 Open Access Dutta, S., Molenberghs, G., Chakraborty, A. (2021). Joint modelling of longitudinal response and time\_to\_event data using conditional distributions: a Bayesian perspective. *JOURNAL OF APPLIED STATISTICS*. doi: 10.1080/02664763.2021.1897971 Open Access Verbeek, J., Deltuvaite\_Thomas, V., Berckmoes, B., Burzykowski, T., Aerts, M., Thas, O., Buyse, M., Molenberghs, G. (2021). Unbiasedness and efficiency of non\_parametric and UMVUE estimators of the probabilistic index and related statistics. *STATISTICAL METHODS IN MEDICAL RESEARCH*, 30 (3), 747\_768. doi: 10.1177/0962280220966629 Brewer, M., Ghosh, D., Rosenberger, W., Welsh, A., Molenberghs, G. (2021). Report of the editors\_2020. *BIOMETRICS*, 77 (1), 5\_8. doi: 10.1111/biom.13443 Open Access Bekkering, G., Delvaux, N., Vankrunkelsven, P., Toelen, J., Aertgeerts, S., Crommen, S., De Bruyckere, P., Devisch, I., Lernout, T., Masschalk, K., Milissen, N., Molenberghs, G., Pascal, A., Plomteux, O., Raes, M., Rans, L., Seghers, A., Sweldens, L., Vandenbussche, J., Vanham, G., Wollants, E., Aertgeerts, B. (2021). Closing schools for SARS\_CoV\_2: a pragmatic rapid recommendation. *BMJ Paediatrics Open*. doi: 10.1136/bmjpo\_2020\_000971 Open Access Uragana, R., Molenberghs, G., Allende, S. (2020). 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Identifying individual predictive factors for treatment efficacy. *BIOMETRICS*. doi: 10.1111/biom.13398 Neyens, T., Faes, C., Vranckx, M., Pepermans, K., Hens, N., Van Damme, P., Molenberghs, G., Aerts, J., Beutels, P. (2020). Can COVID\_19 symptoms as reported in a large\_scale online survey be used to optimise spatial predictions of COVID\_19 incidence risk in Belgium? *SPATIAL AND SPATIO\_TEMPORAL EPIDEMIOLOGY*, 35, Art.No. ARTN 100379. doi: 10.1016/j.sste.2020.100379 Open Access Tran, T.D., Lesaffre, E., Verbeke, G., Molenberghs, G. (2020). Serial correlation structures in latent linear mixed models for analysis of multivariate longitudinal ordinal responses. *Statistics In Medicine*, 40 (3), 578\_592. doi: 10.1002/sim.8790 Berckmoes, B., Ivanova, A., Molenberghs, G. (2020). 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The COVID\_19 epidemic, its mortality, and the role of non\_pharmaceutical interventions. *EUROPEAN HEART JOURNAL ACUTE CARDIOVASCULAR CARE*, 9 (3), Art.No. ARTN 2048872620924922, 204\_208. doi: 10.1177/2048872620924922 Open Access Nassiri, V., Molenberghs, G., Verbeke, G., Barbosa\_Breda, J. (2020). Iterative Multiple Imputation: A Framework to Determine the Number of Imputed Datasets. *AMERICAN STATISTICIAN*, 74 (2), 125\_136. doi: 10.1080/00031305.2018.1543615 Lovik, A., Nassiri, V., Verbeke, G., Molenberghs, G. (2020). A Modified Tucker's Congruence Coefficient for Factor Matching. *METHODOLOGY EUROPEAN JOURNAL OF RESEARCH METHODS FOR THE BEHAVIORAL AND SOCIAL SCIENCES*, 16 (1), 59\_74. doi: 10.5964/meth.2813 Open Access Mallinckrodt, C.H., Bell, J., Liu, G., Ratitch, B., O'Kelly, M., Lipkovich, I., Singh, P., Xu, L., Molenberghs, G. (2020). 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Potential impact of reduced tobacco use on life and health expectancies in Belgium. *INTERNATIONAL JOURNAL OF PUBLIC HEALTH*, 65 (2), 129\_138. doi: 10.1007/s00038\_019\_01315\_z Open Access Verbeek, J., Spitzer, E., de Vries, T., van Es, G.A., Anderson, W.N., Van Mieghem, N.M., Leon, M.B., Molenberghs, G., Tijssen, J. (2019). Generalized pairwise comparison methods to analyze (non)prioritized composite endpoints. *STATISTICS IN MEDICINE*, 38 (30), 5641\_5656. doi: 10.1002/sim.8388 Luyts, M., Molenberghs, G., Verbeke, G., Matthijs, K., Ribeiro, E.E., Demétrio, C.G.B., Hinde, J. (2019). A Weibull\_count approach for handling under\_ and overdispersed longitudinal/clustered data structures. *Statistical Modelling*, 19 (5), 569\_589. doi: 10.1177/1471082X18789992 Florez, A.J., Molenberghs, G., Verbeke, G., Kenward, M.G., Mamouris, P., Vaes, B. (2019). 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High dimensional surrogacy: computational aspects of an upscaled analysis. *JOURNAL OF BIOPHARMACEUTICAL STATISTICS*, 30 (1), 104\_120. doi: 10.1080/10543406.2019.1657128 Open Access Derdelinckx, J., Jose Mansilla, M., De Laere, M., Lee, W.P., Navarro-Barriuso, J., Wens, I., Nkansah, I., Daans, J., De Reu, H., Keliris, A.J., Van Audekerke, J., Vanreusel, V., Pieters, Z., Van der Linden, A., Verhoye, M., Molenberghs, G., Hens, N., Goossens, H., Willekens, B., Cras, P., Ponsaerts, P., Berneman, Z.N., Maria Martinez\_Caceres, E., Cools, N. (2019). Clinical and immunological control of experimental autoimmune encephalomyelitis by tolerogenic dendritic cells loaded with MOG\_encoding mRNA. *JOURNAL OF NEUROINFLAMMATION*, 16 (1), Art.No. ARTN 167. doi: 10.1186/s12974\_019\_1541\_1 Open Access Reddy, T., Molenberghs, G., Bruckers, L., Njagi, E.N., Aerts, M., Schurink, G.W. (2019). Random effects models for estimation of the probability and time to progression of a continuous biomarker. *PHARMACEUTICAL STATISTICS*, 18 (6), 671\_687. doi: 10.1002/pst.1956 Rockhold, F.W., Lindblad, A., Siegel, J.P., Molenberghs, G. (2019). University of Pennsylvania 11th annual conference on statistical issues in clinical trials: Estimands, missing data and sensitivity analysis (morning panel session). *CLINICAL TRIALS*, 16 (4), Art.No. ARTN 1740774519853573, 350\_362. doi: 10.1177/1740774519853573 Open Access Van der Elst, W., Alonso, A.A., Geys, H., Meyvisch, P., Bijnsens, L., Sengupta, R., Molenberghs, G. (2019). Univariate Versus Multivariate Surrogates in the Single\_Trial Setting. *STATISTICS IN BIOPHARMACEUTICAL RESEARCH*, 11 (3), 301\_310. doi: 10.1080/19466315.2019.1575276 Open Access Brewer, M., Ghosh, D., Gorfine, M., Vansteelandt, S., Molenberghs, G. (2019). Report of the editors\_2018. *BIOMETRICS*, 75 (2), 367\_370. doi: 10.1111/biom.13033 Open Access Alonso, A., Meyvisch, P., Van der Elst, W., Molenberghs, G., Verbeke, G. (2019). A reflection on the possibility of finding a good surrogate. *JOURNAL OF BIOPHARMACEUTICAL STATISTICS*, 29 (3), 468\_477. doi: 10.1080/10543406.2018.1559854 Open Access Alonso,

A., Van der Elst, W., Molenberghs, G., Florez, A.J. (2019). A reflection on the causal interpretation of individual\_level surrogacy. *JOURNAL OF BIOPHARMACEUTICAL STATISTICS*, 29 (3), 529\_540. doi: 10.1080/10543406.2019.1579221 Open Access Meyvisch, P., Alonso, A., Van der Elst, W., Molenberghs, G. (2019). Assessing the predictive value of a binary surrogate for a binary true endpoint based on the minimum probability of a prediction error. *PHARMACEUTICAL STATISTICS*, 18 (3), 304\_315. doi: 10.1002/pst.1924 Open Access Decin, L., Homan, W., Danilovich, T., de Koter, A., Engels, D., Waters, L.B F M., Muller, S., Gielen, C., Garcia\_Hernandez, D.A., Standcliffe, R.J., Van de Sande, M., Molenberghs, G., Kerschbaum, F., Zijlstra, A.A., El Mellah, I. (2019). 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Defining Efficacy Estimands in Clinical Trials: Examples Illustrating ICH E9(R1) Guidelines. *Ther Innov Regul Sci*. doi: 10.1177/2168479019841316 Mallinckrodt, C.H., Bell, J., Liu, G., Ratitch, B., O'Kelly, M., Lipkovich, I., Singh, P., Xu, L., Molenberghs, G. (2019). Aligning Estimators With Estimands in Clinical Trials: Putting the ICH E9(R1) Guidelines Into Practice. *Ther Innov Regul Sci*. doi: 10.1177/2168479019836979 Ratitch, B., Bell, J., Mallinckrodt, C., Bartlett, J.W., Goel, N., Molenberghs, G., O'Kelly, M., Singh, P., Lipkovich, I. (2019). Choosing Estimands in Clinical Trials: Putting the ICH E9(R1) Into Practice. *Ther Innov Regul Sci*. doi: 10.1177/2168479019838827 Florez, A.J., Molenberghs, G., Verbeke, G., Abad, A.A. (2019). 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## Projects

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