Cover Page

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List of Publications

T.A. Balan, S.E. Boonk, M.H. Vermeer, H. Putter (2016). Score test for association between recurrent events and a terminal event. *Statistics in Medicine* 35(12), 3037–3048.

T.A. Balan, M.A. Jonker, P.C. Johannesma, H. Putter (2016). Ascertainment correction in frailty models for recurrent events data. *Statistics in Medicine* 35(23), 4183–4201

T.A. Balan, H. Putter (2018). **frailtyEM**: an R package for estimating semiparametric shared frailty models. *Journal of Statistical Software, manuscript accepted for publication.*

T.A. Balan, H. Putter (2018). Non-proportional hazards and unobserved heterogeneity in clustered survival data: When can we tell the difference?. *Manuscript submitted for publication.*

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Curriculum Vitae

Theodor Adrian Bălan was born on the 8th of March 1989 in Bucharest, Romania. He completed his secondary studies in 2008 at *Colegiul Național Sfântul Sava* (Saint Sava National College).

In 2011, he earned a bachelor's degree in Applied Mathematics from the University of Bucharest, with a dissertation titled *Factor Analysis and Applications*. Afterwards, he continued his education at Leiden University within the Statistical Science for Life & Behavioural Sciences programme. From 2012 to 2013 he was president of the International Student Network Leiden organization. In 2013, he graduated with a master's degree *cum laude* in Mathematics, with the dissertation *Joint Modeling of Recurrent and Terminal Events: A Simulation Study* written under the supervision of Prof. dr. Hein Putter.

In 2013, he started his PhD research at the department of Medical Statistics and Bioinformatics (now Biomedical Data Sciences) at Leiden University Medical Center under the supervision of Prof. dr. Hein Putter. His work focused on extending methodology regarding random effect models for time to event data, also known as *frailty models*. The results of this research are presented in this thesis. During this time, he was awarded three travel grants (2014, University of Milano-Biccoca; 2016, Leiden University Funds; 2017, International Biometric Society).

He is the author and maintainer of the R packages **frailtyEM** and **dynfrail**. He co-wrote and taught the course *Frailty Models: Theory and Practice* in Prague in 2017, for the Czech National Group of the International Society for Clinical Biostatistics, and as part of an invited *Statistics in Practice* session at the International Biometrical Conference in Barcelona in 2018. He is a reviewer for Biostatistics, Statistics in Medicine and Statistical Methods in Medical Research and Biometrical Journal.