

# Dimitris Rizopoulos

Birth date: December 9th, 1979

Nationality: Greek

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Department of Biostatistics

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ACADEMIC POSITIONS     ◇ **Dept. of Biostatistics, Erasmus University Medical Center**

· Associate Professor, March 2014 – present

· Assistant Professor, September 2008 – February 2014

EDUCATION     ◇ **Leuven Biostatistics and statistical Bioinformatics Centre, Katholieke Universiteit Leuven**

· PhD in Mathematics (direction Biostatistics), October 2004 – May 2008  
Thesis title: *Joint Modelling of Longitudinal and Survival Data* (advisor:  
Prof. Geert Verbeke / co-advisors: Prof. E. Lesaffre & Prof. I. Gijbels)

· pre-Doctoral studies, October 2003 – September 2004

◇ **Dept. of Statistics, Athens University of Economics and Business**

· Master in Statistics, October 2002 – December 2003

· Bachelor in Statistics, October 1998 – September 2002

RESEARCH INTERESTS     ◇ Joint modelling of longitudinal and time-to-event data

◇ Longitudinal data analysis

◇ Survival analysis

◇ Statistical analysis with missing data, primarily in longitudinal studies

◇ Psychometrics, latent variable modelling & item response theory

◇ Statistical computing in R

GRANTS      ◇ Grants

AWARDS

SCHOLARSHIPS

- ERASMUS MC GRANT, Erasmus Medical Center Rotterdam (2015–2019, €150K) – jointly with Prof. E. Steyerberg
- VIDI, NWO: Netherlands Organization for Scientific Research PI (2014–2019, €800K)
- Aristeia II grant, Athens University of Economics and Business (2014–2015, €100K) – jointly with Prof. V. Vasdekis (PI) and Prof. I. Moustaki
- Erasmus University Rotterdam Fellowship PI (2011–2014, €135K)
- Erasmus Trustfonds travel grant (2011, €0.75K)
- PEVE3 grant, Athens University of Economics and Business, (2011, €12K) – jointly with Prof. V. Vasdekis (PI) and Prof. I. Moustaki
- PEVE2 grant, Athens University of Economics and Business (2010, €12K) – jointly with Prof. V. Vasdekis (PI)
- U.S. Army Medical Research grant (2006, €3K)

◇ Awards

- ISCB Student Conference award (2007)
- IWSM Student Paper award (2007)
- IWSM Student Paper award (2007)
- ISCB Student Conference award (2005)
- Academic Excellence award, G. Halkiopoulos Foundation, Athens University of Economics and Business (2001)

◇ Scholarships

- Katholieke Universiteit Leuven for pre-doctoral studies (2003–2004, €12K)
- PricewaterHouseCoopers for Master studies (2002–2003, €4.5K)

PUBLICATIONS ◇ Books

- Rizopoulos, D. (2012). *Joint Models for Longitudinal and Time-to-Event Data, with Applications in R*. Boca Raton: Chapman and Hall/CRC. [[Book Website](#); [Publisher Website](#)]

◇ International Journals

1. Andrinopoulou, E.R., Eilers, P.H.C., Takkenberg, J.J.M. and Rizopoulos, D. (2017). Improved dynamic predictions from joint models of longitudinal and survival data with time-varying effects using P-splines. *Biometrics*, to appear.
2. Rizopoulos, D., Molenberghs, G. and Lesaffre, E. (2017). Dynamic Predictions with Time-Dependent Covariates in Survival Analysis using Joint Modeling and Landmarking. *Biometrical Journal*, to appear.

3. Mauff, K., Steyerberg, E.W., Nijpels, G., van der Heijden, A. and Rizopoulos, D. (2017). Extension of the association structure in joint models to include weighted cumulative effects. *Statistics in Medicine*, to appear.
4. Garcia-Hernandez, A. and Rizopoulos, D. (2017). %JM: A SAS macro to fit jointly generalized mixed models for longitudinal data and time-to-event responses. *Journal of Statistical Software*, to appear.
5. Gotink, R., Younge, J., Wery, M., Utens, E., Michels, M., Rizopoulos, D., van Rossum, L., Roos-Hesselink, J. and Hunink, M. (2017). Online mindfulness as a promising method to improve exercise capacity in heart disease: 12-month follow-up of a randomized controlled trial. *PLoS One*, 12(5), art. no. e0175923.
6. van der Vuurst-de Vries, R., van den Dorpel, J.J., Mescheriakova, J.Y., Runia, T.F., Jafari, N., Siepmann, T.A., Rizopoulos, D., Steyerberg, E.W. and Hintzen, R.Q. (2017). Fatigue after a first attack of suspected multiple sclerosis. *Multiple Sclerosis Journal*, to appear.
7. Andrinopoulou, E.R., Rizopoulos, D., Takkenberg, J.J.M. and Lesaffre, E. (2017). Combined dynamic predictions using joint models of two longitudinal outcomes and competing risk data. *Statistical Methods in Medical Research*, to appear.
8. Bryan, S., Eiler, P., van Rosmalen, J., Rizopoulos, D., Vermeer, K., Lemij, H. and Lesaffre, E. (2017). Bayesian hierarchical modeling of longitudinal glaucomatous visual fields using a two-stage approach. *Statistics in Medicine* **36**, 1735–1753.
9. Chaker, L., Korevaar, T., Rizopoulos, D., Collet, T., Volzke, H., Hofman, A., Rodondi, N., Cappola, A., Peeters, R. and Franco, O. (2017). Defining optimal health range for thyroid function based on the risk of cardiovascular disease. *The Journal of Clinical Endocrinology & Metabolism*, to appear.
10. Neelis, E., Rijnen, N., Sluimer, J., Olieman, J., Rizopoulos, D., Wijnen, R., Rings, E., Koning, B. and Hulst, J. (2017). Bone health of children with intestinal failure measured by dual energy X-ray absorptiometry and digital X-ray radiogrammetry. *Clinical Nutrition*, to appear.
11. van Boven, N., Akkerhuis, K.M., Anroedh, S.S., Rizopoulos, D., Pinto, Y., Battes, L.C., Hillege, H.L., Caliskan, K.C., Germans, T., Manintveld, O.C., Cornel, J.-H., Constantinescu, A.A., Boersma, E., Umans, V.A. and Kardys, I. (2017). Serially measured circulating miR-22-3p is a biomarker for adverse clinical outcome in patients with chronic heart failure: The Bio-SHiFT study. *International Journal of Cardiology* **235**, 124–132.
12. Wolters, F.J., Rizopoulos, D., Ikram, M.A. (2017). Dementia and death: Separate sides of the atrial fibrillation coin? *International Journal of Cardiology* **227**, 189–189.
13. de Vries, J., Kuperus, E., Hoogeveen-Westerveld, M., Kroos, M., Wens, S., Stok, M., van der Beek, N., Kruijshaar, M., Rizopoulos, D., van Doorn, P., van der Ploeg, A. and Pijnappel, W. (2017). Pompe disease

- in adulthood: Effects of antibody formation on enzyme replacement therapy. *Genetic Medicine* **19**, 90–97.
14. Schreijenberg, M., Luijsterburg, P.A., Van Trier, Y.D., Rizopoulos, D., Koopmanschap, M.A., Voogt, L., Maher, C.G. and Koes, B.W. (2017). Efficacy of paracetamol, diclofenac and advice for acute low back pain in general practice: design of a randomized controlled trial (PACE Plus). *BMC Musculoskeletal Disorder* **18**, 56.
  15. Rizopoulos, D., Taylor, J.M.G., van Rosmalen, J., Steyerberg, E.W. and Takkenberg, J.J.M. (2016). Personalized screening intervals for biomarkers using joint models for longitudinal and survival data. *Biostatistics* **17**, 149–164.
  16. Rizopoulos, D. (2016). The R package JMbayes for fitting joint models for longitudinal and time-to-event data using MCMC. *Journal of Statistical Software* **72**(7), 1–45.
  17. Andrinopoulou, E.R. and Rizopoulos, D. (2016). Bayesian shrinkage approach for a joint model of longitudinal and survival outcomes assuming different association structures. *Statistics in Medicine* **35**, 4813–4823.
  18. Erler, N., Rizopoulos, D., van Rosmalen, J., Jaddoe, V., Franco, O. and Lesaffre, E. (2016). Dealing with missing covariates in epidemiologic studies: A comparison between multiple imputation and a full Bayesian approach. *Statistics in Medicine* **35**, 2955–2974.
  19. Njeru Njagi, E.N., Molenberghs, G., Rizopoulos, D., Verbeke, G., Kenward, M., Dendale, P. and Willekens, K. (2016). A flexible joint modelling framework for longitudinal and time-to-event data with overdispersion. *Statistical Methods in Medical Research* **25**, 1661–1676.
  20. Nasserinejad, K., van Rosmalen, J., de Kort, W., Rizopoulos, D. and Lesaffre, E. (2016). Prediction of hemoglobin in blood donors using a latent class mixed-effects transition model. *Statistics in Medicine* **35**, 581–594.
  21. Overwater, I., Rietman, A., Bindels-de Heus, K., Looman, C., Rizopoulos, D., Sibindi, T., Cherian, P., Jansen, F., Moll, H., Elgersma, Y. and de Wit, M. (2016). Sirolimus for epilepsy in children with tuberous sclerosis complex: A randomized controlled trial. *Neurology* **87**, 1011–1018.
  22. Cornelissen, M., Ottelander, B., Rizopoulos, D., van der Hulst, R., Mink van der Molen, A., van der Horst, C., Delye, H., van Veelen, M., Bonsel, G. and Mathijssen, I. (2016). Increase of prevalence of craniosynostosis. *Journal of Cranio-Maxillo-Facial Surgery* **44**, 1273–1279.
  23. den Boer, S.L., Rizopoulos, D., du Marchie-Sarvaas, G.J., Backx, A.P., Ten Harkel, A.D., van Iperen, G.G., Rammeloo, L.A., Tanke, R.B., Boersma, E., Helbing, W.A. and Dalinghaus, M. (2016). Usefulness of Serial N-terminal Pro-B-type Natriuretic Peptide measurements to predict cardiac death in acute and chronic dilated cardiomyopathy in children. *American Journal of Cardiology* **118**, 1723–1729.
  24. Cornette J., Laker, S., Jeffery, B., Lombaard, H., Alberts, A., Rizopoulos, D., Roos-Hesselink, J. and Pattinson, R. (2016). Validation of maternal

- cardiac output assessed by transthoracic echocardiography against pulmonary artery catheters in severely ill pregnant women. A prospective comparative study and systematic review. *Ultrasound in Obstetrics & Gynecology*, to appear.
25. Lalmahomed, Z.S., Broker, M.E., van Huizen, N.A., Coebergh van den Braak, R.R., Dekker, L.J., Rizopoulos, D., Verhoef, C., Steyerberg, E.W., Luiders, T.M., IJzermans, J.N. (2016). Hydroxylated collagen peptide in urine as biomarker for detecting colorectal liver metastases. *American Journal of Cancer Research* **15**, 321-330.
26. Brusse, I.A., Duvekot, J.J., Meester, I., Jansen, G., Rizopoulos, D., Steegers, E.A. and Visser, G.H. (2016). Electroencephalography in normotensive and hypertensive pregnancies and subsequent quality of life. *PLoS One*, 11(5), art. no. e0155299.
27. Nunez, J., Nunez, E., Bayes-Genis, A., Fonarow, G.C., Minana, G., Bodi, V., Pascual-Figal, D., Santas, E., Garcia-Blas, S., Chorro, F.J., Rizopoulos, D. and Sanchis J. (2016). Long-term serial kinetics of N-terminal pro B-type natriuretic peptide and carbohydrate antigen 125 for mortality risk prediction following acute heart failure. *European Heart Journal: Acute Cardiovascular Care*, to appear.
28. Groen, J., Negenborn, V., Twisk, D., Rizopoulos, D., Ket, J., Smit, J. and Mullender, M. (2016). Autologous fat grafting in onco-plastic breast reconstruction: A systematic review on oncological and radiological safety, complications, volume retention and patient/surgeon satisfaction. *Journal of Plastic, Reconstructive & Aesthetic Surgery* **69**, 742–764.
29. Janki, S., Klop, K., Kimenai, H., van de Wetering, J., Weimar, W., Massey, E., Dehghan, A., Rizopoulos, D., Völzke, H., Hofman, A., Ijzermans, J. (2016). Long-term follow-up after live kidney donation (LOVE) study: A longitudinal comparison study protocol. *BMC Nephrology* **17**, 14.
30. Güngör, D., Kruijschaar, M., Plug, I., Rizopoulos, D., Kanters, T., Wens, S., Reuser, A., van Doorn, P. and van der Ploeg A. (2016). Quality of life and participation in daily life of adults with Pompe disease receiving enzyme replacement therapy: 10 years of international follow-up. *Journal of Inherited Metabolic Disease* **39**, 253–260.
31. Cornette, J., Buijs, E., Duvekot, J., Herzog, E., Roos-Hesselink, J., Rizopoulos, D., Meima, M., Steegers, E. (2016). Haemodynamic effects of intravenous nicardipine in severe pre-eclamptic women with a hypertensive crisis. *Ultrasound in Obstetrics & Gynecology* **47**, 89–95.
32. Boer, J., Van Der Veer, A., Rizopoulos, D., Fiocco, M., Sonneveld, E., De Groot-Kruseman, H.A., Kuiper, R.P., Hoogerbrugge, P., Horstmann, M., Zaliouva, M., Palmi, C., Trka, J., Fronkova, E., Emerenciano, M., Do Socorro Pombo-De-Oliveira, M., Mlynarski, W., Szczepanski, T., Nebral, K., Attarbaschi, A., Venn, N., Sutton, R., Schwab, C.J., Enshaei, A., Vora, A., Stanulla, M., Schrappe, M., Cazzaniga, G., Conter, V., Zimmermann, M., Moorman, A.V., Pieters, R. and Den Boer,

- M. (2016). Prognostic value of rare IKZF1 deletion in childhood B-cell precursor acute lymphoblastic leukemia: An international collaborative study. *Leukemia* **30**, 32–38.
33. Rizopoulos, D. (2015). Comments on ‘joint modeling of survival and longitudinal non-survival data: Current methods and issues. Report of the DIA Bayesian joint modeling working group’. *Statistics in Medicine* **34**, 2196–2197.
34. Murawska, M. and Rizopoulos, D. (2015). Simple analysis of non-Markov models: A case study on heart transplant data. *Statistical Modelling* **15**, 51–69.
35. Florios, K., Moustaki, I., Rizopoulos, D. and Vasdekis, V. (2015). A modified weighted pairwise likelihood estimator for a class of random effects models. *Metron* **73**, 217–28.
36. Andrinopoulou, E.R., Rizopoulos, D., Geleijnse, M., Lesaffre, E., Bogers, A. and Takkenberg, J.J.M. (2015). Dynamic prediction of outcome for patients with severe aortic stenosis: Application of joint models for longitudinal and time-to-event data. *BMC Cardiovascular Disorders* **15**, 28.
37. Nasserinejad, K., van Rosmalen, J., van den Hurk, K., Baart, M., Hoekstra, T., Rizopoulos, D., Lesaffre, E., and de Kort, W. (2015). Prevalence and determinants of declining versus stable hemoglobin levels in whole blood donors. *Transfusion* **55**, 1955–1963.
38. Fakhry, F., Spronk, S., van der Laan, L., Wever, J., Teijink, J., Hoffmann, W., Smits, T., van Brussel, J., Stultiens, G., Derom, A., den Hoed, T., Ho, G., van Dijk, L., Verhofstad, N., Orsini, M., van Petersen, A., Woltman, K., Hulst, I., van Sambeek, M., Rizopoulos, D., Rouwet, E. and Myriam Hunink, M. (2015). Endovascular revascularization and supervised exercise for peripheral artery disease and intermittent claudication: A randomized clinical trial. *The Journal of the American Medical Association* **314**, 1936–1944.
39. Younge, J., Wery, M., Gotink, R., Utens, E., Michels, M., Rizopoulos, D., van Rossum, E., Hunink, M. and Roos-Hesselink, J. (2015). Web-based mindfulness intervention in heart disease: A randomized controlled trial. *PLoS One*, 10(12), art. no. e0143843.
40. Spruijt, B., Joosten, K., Driessen, C., Rizopoulos, D., Naus, N., van der Schroeff, M., Wolvius, E., van Veelen, M., Tasker, R. and Mathijssen, I. (2015). Algorithm for the management of intracranial hypertension in children with syndromic craniosynostosis. *Plastic and Reconstructive Surgery* **136**, 331–340.
41. Bates, L., Caliskan, K., Rizopoulos, D., Constantinescu, A., Akkerhuis, M., Manintveld, O., Boersma, E. and Kardys, I. (2015). Repeated measurements of NT-proBNP, Troponin T or CRP for prediction of allograft rejection in heart transplant recipients. *Transplantation* **99**, 580–585.
42. Rizopoulos, D., Hatfield, L., Carlin, B. and Takkenberg, J.J.M. (2014). Combining dynamic predictions from joint models for longitudinal and

- time-to-event data using Bayesian model averaging. *Journal of the American Statistical Association* **109**, 1385–1397.
43. Rizopoulos, D. and Lesaffre, E. (2014). Joint modeling techniques. *Statistical Methods in Medical Research* **23**, 3–10.
44. Rizopoulos, D. and Takkenberg, J.J.M. (2014). Tools & Techniques: Dealing with time-varying covariates in survival analysis - joint models versus Cox models. *EuroIntervention* **10**, 285–288.
45. Vasdekis, V., Rizopoulos, D. and Moustaki, I. (2014). Weighted pairwise likelihood estimation for a general class of random effects models. *Biostatistics* **15**, 677–89.
46. Andrinopoulou, E.R., Rizopoulos, D., Takkenberg, J.J.M. and Lesaffre, E. (2014). Joint modeling of two longitudinal outcomes and competing risk data. *Statistics in Medicine* **33**, 3167–3178.
47. Viviani, S., Alfó, M. and Rizopoulos, D. (2014). Generalized linear mixed joint model for longitudinal and survival outcomes. *Statistics and Computing* **24**, 417–427.
48. Viviani, S., Rizopoulos, D. and Alfó, M. (2014). Local sensitivity of shared parameter models to nonignorability of dropout. *Statistical Modelling* **14**, 205–228.
49. Njeru Njagi, E., Molenberghs, G., Kenward, M., Verbeke, G. and Rizopoulos, D. (2014). A characterization of missingness at random in a generalized shared-parameter joint modelling framework for longitudinal and time-to-event data, and sensitivity analysis. *Biometrical Journal* **56**, 1001–1015.
50. Molenberghs, G., Kenward, M., Aerts, M., Verbeke, G., Tsiatis, A., Davidian, M. and Rizopoulos, D. (2014). On random sample size, ignorability, ancillarity, completeness, separability, and degeneracy: Sequential trials, random sample sizes, and missing data. *Statistical Methods in Medical Research* **23**, 11–41.
51. Nunez, J., Nunez, E., Rizopoulos, D., Minana, G., Bodi, V., Bondanza, L., Husser, O., Merlos, P., Santas, E., Pascual-Figal, D., Chorro, F. and Sanchis, J. (2014). Red blood cell distribution width is longitudinally associated with mortality and incident anemia in heart failure patients. *Circulation Journal* **78**, 410–418.
52. Cuypers, J., Menting, M., Konings, E., Opic, P., Utens, E., Helbing, W., Witsenburg, M., van den Bosch, A., Ouhlous, M., van Domburg, R., Rizopoulos, D., Meijboom, F., Boersma, E., Bogers, A., Roos-Hesselink, J. (2014). The unnatural history of tetralogy of Fallot: Prospective follow-up of 40 years after surgical correction. *Circulation* **130**, 1944–1953.
53. Cuypers, J., Eindhoven, J., Slager, M., Opic, P., Utens, E., Helbing, W., Witsenburg, M., van den Bosch, A., Ouhlous, M., van Domburg, R., Rizopoulos, D., Meijboom, F., Bogers, A., Roos-Hesselink, J. (2014). The natural and unnatural history of the Mustard procedure: long-term outcome up to 40 years. *European Heart Journal* **35**, 1666–1674.

54. de Vries, P., Gielen, M., Rizopoulos, D., Rump, P., Godschalk, R., Hornstra, G. and Zeegers, M. (2014). Association between polyunsaturated fatty acid concentrations in maternal plasma phospholipids during pregnancy and offspring adiposity at age 7: The MEFAB Cohort. *Prostaglandins, Leukotrienes & Essential Fatty Acids* **91**, 81–85.
55. Buijs, E., Houmes, R., Rizopoulos, D., Wildschut, E., Reiss, I., Ince, C. and Tibboel, D. (2014). Arterial lactate for predicting mortality in children requiring extracorporeal membrane oxygenation. *Minerva Anesthesiologica* **80**, 1282–1293.
56. Janmohamed, S., Oranje, A., Devillers, A., Rizopoulos, D., van Praag, M., Van Gysel, D., Goeteyn, M. and de Waard-van der Spek, F. (2014). Wet wrap treatment in children with atopic eczema using the wet wrap method with diluted corticosteroids versus emollients - a prospective, randomized, double blind, placebo controlled trial. *Journal of the American Academy of Dermatology* **70**, 1076–1082.
57. Cornette, J., Herzog, E., Buijs, E., Duvekot, J., Rizopoulos, D., Hop, W., Tibboel, D. and Steegers, E. (2014). Microcirculation in women with severe pre-eclampsia and HELLP syndrome: A case control study. *BJOG: An International Journal of Obstetrics and Gynaecology* **121**, 363–370.
58. Njeru Njagi, E., Rizopoulos, D., Molenberghs, G., Dendale, P. and Willekens, K. (2013). A joint survival-longitudinal modelling approach for the dynamic prediction of rehospitalization in telemonitored chronic heart failure patients. *Statistical Modelling* **13**, 179–198.
59. Thabut, G., Christie, J., Mal, H., Fournier, M., Brugiere, O., Leseche, G., Castier, Y. and Rizopoulos, D. (2013). Survival benefit of lung transplant for cystic fibrosis since lung-allocation-score implementation. *American Journal of Respiratory and Critical Care Medicine* **187**, 1335–1340.
60. Daher Abdi, Z., Essig, M., Rizopoulos, D., Le Meur, Y., Premaud, A., Woillard, J.-B., Rerolle, J.-P., Marquet, P. and Rousseau, A. (2013). Impact of longitudinal exposure to mycophenolic acid on acute rejection in renal-transplant recipients using a joint modeling approach. *Pharmacological Research* **72**, 52–60.
61. van der Linde, D., Roos-Hesselink, J., Rizopoulos, D., Heuvelman, H., Budts, W., van Dijk, A., Witsenburg, M., Yap, S., Bogers, A., Oxenius, A., Silversides, C., Oechslin, E. and Takkenberg, J.J.M. (2013). Surgical outcome of discrete subaortic stenosis in adults: A multicenter study. *Circulation* **127**, 1184–1191.
62. van der Linde, D., Takkenberg, J.J.M., Rizopoulos, D., Heuvelman, H., Budts, W., van Dijk, A., Witsenburg, M., Yap, S., Bogers, A., Oxenius, A., Silversides, C., Oechslin, E. and Roos-Hesselink, J. (2013). Natural history of discrete subaortic stenosis in adults: A multicenter study. *European Heart Journal* **34**, 1548–1556.
63. Cornette, J., Ruys, T. P., Rossi, A., Rizopoulos, D., Steegers, E., Duvekot, J. J. and Roos-Hesselink, J. (2013). Hemodynamic adaptation to



- pregnancy in women with structural heart disease. *International Journal of Cardiology* **30**, 825–831.
64. Driessen, D., Joosten, K., Bannink, N., Bredero-Boelhouwer, H., Hoeve, H., Wolvius, E. Rizopoulos, D. and Mathijssen, I. (2013). How does obstructive sleep apnoea evolve in syndromic craniosynostosis? A prospective cohort study. *Archives of Disease in Childhood* **98**, 538–543.
65. van der Veer, A., Waanders, E., Pieters, R., Willemse, M., Van Reijmersdal, S., Russell, L., Harrison, C., Evans, W., van der Velden, V., Hoogerbrugge, P., van Leeuwen, F., Escherich, G., Horstmann, M., Mohammadi Khankahdani, L., Rizopoulos, D., De Groot-Kruseman, H., Sonneveld, E., Kuiper, R. and Den Boer, M. (2013). Independent prognostic value of BCR-ABL1-like signature and IKZF1 deletion, but not high CRLF2 expression, in children with B-cell precursor ALL. *Blood* **122**, 2622–2629.
66. Bakker, R., Akin, S., Rizopoulos, D., Kik, C., Takkenberg, J.J.M. and Bogers, A. (2013). Results of clinical application of the modified maze procedure as concomitant surgery. *Interactive CardioVascular and Thoracic Surgery* **16**, 151–156.
67. Rizopoulos, D. (2012). Fast fitting of joint models for longitudinal and event time data using a pseudo-adaptive Gaussian quadrature rule. *Computational Statistics and Data Analysis* **56**, 491–501.
68. Murawska, M., Rizopoulos, D. and Lesaffre, E. (2012). A two-stage joint model for longitudinal and time-to-event data with application in transplantation studies. *Journal of Probability and Statistics* **2012**, article ID 194194, 18 pages.
69. Andrinopoulou, E.R., Rizopoulos, D., Jin, R., Bogers, A., Lesaffre, E. and Takkenberg, J.J.M. (2012). An introduction to mixed models and joint modeling: Analysis of valve function over time. *Annals of Thoracic Surgery* **93**, 1765–1772.
70. Mokhles, M., Rizopoulos, D., Andrinopoulou, E.R., Bekkers, J., Roos-Hesselink, J., Lesaffre, E., Bogers, A. and Takkenberg, J.J.M. (2012). Autograft and pulmonary allograft performance in the second postoperative decade after the Ross procedure: Insights from the Rotterdam prospective cohort study. *European Heart Journal* **33**, 2213–2224.
71. Verwoert, G., Elias-Smale, S., Rizopoulos, D., Steyerberg, E., Hofman, A., Kavousi, M., Sijbrands, E., Hoeks, A., Reneman, R., Mattace-Raso, F. and Witteman, J. (2012). Is aortic stiffness ready for the clinical practice? Results from the Rotterdam study. *Journal of Human Hypertension* **26**, 28–34.
72. Rizopoulos, D. (2011). Dynamic predictions and prospective accuracy in joint models for longitudinal and time-to-event data. *Biometrics* **67**, 819–829.
73. Rizopoulos, D. and Ghosh, P. (2011). A Bayesian semiparametric multivariate joint model for multiple longitudinal outcomes and a time-to-event. *Statistics in Medicine* **30**, 1366–1380.

74. Mauritz, G.-J., Rizopoulos, D., Groepenhoff, H., Tiede, H., Felix, J., Eilers, P., Bosboom, J., Postmus, P., Westerhof, N. and Vonk-Noordegraaf, A. (2011). Usefulness of serial N-Terminal pro-B-type natriuretic peptide measurements for determining prognosis in patients with pulmonary arterial hypertension. *American Journal of Cardiology* **108**, 1645–1650.
75. Levine, S., Rabinowitz, J. and Rizopoulos, D. (2011). Recommendations to improve the positive and negative syndrome scale (PANSS) based on item response theory. *Psychiatry Research* **188**, 446–452.
76. Ramdas, W., Rizopoulos, D., Wolfs, R., Hofman, A., de Jong, P., Vingerling, J. and Jansonius, N. (2011). Defining glaucomatous optic neuropathy from a continuous measure of optic nerve damage - the optimal cut-off point for risk-factor analysis in population-based epidemiology. *Ophthalmic Epidemiology* **18**, 211–216.
77. Van de Voorde, P., Sabbe, M., Tsonaka, R., Rizopoulos, D., Calle, P., De Jaeger, A., Lesaffre, E., Matthys, D. (2011). The long-term outcome after severe trauma of children in Flanders (Belgium): a population-based cohort study using the International Classification of Functioning-related Outcome Score. *European Journal of Pediatrics* **170**, 65–73.
78. Tsonaka, R., Rizopoulos, D., Verbeke, G. and Lesaffre, E. (2010). Non-ignorable models for intermittently missing categorical longitudinal responses. *Biometrics* **66**, 834–844.
79. Rizopoulos, D. (2010). JM: An R package for the joint modelling of longitudinal and time-to-event data. *Journal of Statistical Software* **35** (9), 1–33.
80. Rizopoulos, D., Verbeke, G. and Molenberghs, G. (2010). Multiple-imputation-based residuals and diagnostic plots for joint models of longitudinal and survival outcomes. *Biometrics* **66**, 20–29.
81. Rizopoulos, D., Verbeke, G. and Lesaffre, E. (2009). Fully exponential Laplace approximations for the joint modelling of survival and longitudinal data. *Journal of the Royal Statistical Society, Series B* **71**, 637–654.
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83. Rizopoulos, D., Verbeke, G., Lesaffre, E. and Vanrenterghem, Y. (2008). A two-part joint model for the analysis of survival and longitudinal binary data with excess zeros. *Biometrics* **64**, 611–619.
84. Rizopoulos, D. and Moustaki, I. (2008). Generalized latent variable models with nonlinear effects. *British Journal of Mathematical and Statistical Psychology* **61**, 415–438.
85. van Kuyck, K., Brak, K., Das, J., Rizopoulos, D. and Nuttin, B. (2008). Comparative study of the effects of electrical stimulation in the nucleus accumbens, the mediodorsal thalamic nucleus and the bed nucleus of the stria terminalis in rats with schedule-induced polydipsia. *Brain Research* **1201**, 93–99.

86. van de Voorde, P., Sabbe, M., Calle, P., Lesaffre, E., Rizopoulos, D., Tsonaka, R., Christiaens, D., Vantomme, A., De Jaeger, A. and Matthys, D. (2008). Pediatric trauma and trauma care in Flanders (Belgium). Methodology and first descriptive results of the PENTA registry. *European Journal of Pediatrics* **167**, 1239–1249.
87. van de Voorde, P., Sabbe, M., Rizopoulos, D., Tsonaka, R., de Jaeger, A., Lesaffre, E. and Peters, M. (2008). Assessing the level of consciousness in children: a plea for the Glasgow Coma Motor Subscore. *Resuscitation* **76**, 175–179.
88. Lesaffre, E., Rizopoulos, D. and Tsonaka, R. (2007). The logistic transform for bounded outcome scores. *Biostatistics* **8**, 72–85.
89. Rizopoulos, D. (2006). ltm: An R package for latent variable modelling and item response theory analyses. *Journal of Statistical Software* **17** (5), 1–25.
90. Tsonaka, R., Rizopoulos, D. and Lesaffre, E. (2006). Power and sample size calculations for discrete bounded outcome scores. *Statistics in Medicine* **25**, 4241–4252.

◇ Book Chapters

1. Rizopoulos, D. (2014). Joint Modeling of Longitudinal and Time-to-Event Data. In: *Handbook of Missing Data* by Fitzmaurice, G., Kenward, M., Molenberghs, G., Tsiatis, A. and Verbeke, G. Boca Raton: Chapman and Hall/CRC.
2. Rizopoulos, D., Molenberghs, G. and Verbeke, G. (2014). Model Diagnostics and Incomplete Data. In: *Handbook of Missing Data* by Fitzmaurice, G., Kenward, M., Molenberghs, G., Tsiatis, A. and Verbeke, G. Boca Raton: Chapman and Hall/CRC.
3. Rizopoulos, D. (2013). Joint Modeling of Longitudinal and Time-to-Event Data: Challenges and Future Directions. In: *Advances in Theoretical and Applied Statistics* by Torelli, N. and Pesarin, F.
4. Verbeke, G., Molenberghs, G. and Rizopoulos, D. (2010). Random Effects Models for Longitudinal Data. In: *Longitudinal Research with Latent Variables* by van Montfort, K., Oud, J. and Satorra, A. Heidelberg: Springer-Verlag.

STATISTICAL SOFTWARE ◇ packages developed for the R programming language – publicly available via CRAN

- JM package: Fits joint models for continuous longitudinal responses and time-to-event data. More info available at: <http://cran.r-project.org/package=JM>.
- JMbays package: Fits joint models for continuous longitudinal responses and time-to-event data under the Bayesian approach. More info available at: <http://cran.r-project.org/package=JMbays>.

- **ltm** package: Latent trait models for Item Response Theory analyses. More info available at: <http://cran.r-project.org/package=ltm>.
- **bootStepAIC** package: Bootstraps a stepwise algorithm that uses the AIC for model selection. More info available at: <http://cran.r-project.org/package=bootStepAIC>.
- **grouped** package: Regression models for grouped or coarse data. It includes also functions for power and sample size calculations. More info available at: <http://cran.r-project.org/package=grouped>.

SEMINARS & ◇ Invited

CONFERENCE  
PRESENTATIONS

1. 2017 August: CEN-ISBS, Vienna, Austria, ‘Modern use of Shared Parameter Models for Dropout’.
2. 2017 July: Joint Statistical Meetings, Baltimore, USA, ‘Improving Dynamic Predictions from Joint Models using Time-Varying Effects’.
3. 2016 August: Joint Statistical Meetings, Chicago, USA, ‘Personalized Screening Intervals for Biomarkers using Joint Models for Longitudinal and Survival Data’.
4. 2015 August: 36th Conference of the International Society for Clinical Biostatistics, Utrecht, the Netherlands, ‘Personalized Screening Intervals for Biomarkers using Joint Models for Longitudinal and Survival Data’.
5. 2015 August: Joint Statistical Meetings, Seattle, USA, ‘Fitting Joint Models in R using Packages JM and JMbayes’.
6. 2015 July: Keynote speaker, Workshop on Flexible Models for Longitudinal and Survival Data with Applications in Biostatistics, Warwick, UK.
7. 2015 June: GdR Statistique & Sante, Paris, France, ‘Personalized Screening Intervals for Biomarkers using Joint Models for Longitudinal and Survival Data’.
8. 2015 May: East Mediterranean Region, International Biometric Society, biannual Conference, Cappadocia, Turkey, ‘Optimal Screening Intervals for Biomarkers using Joint Models for Longitudinal and Survival Data’.
9. 2015 April: 5th Channel Network Conference, International Biometric Society, Nijmegen, the Netherlands, ‘Personalized Screening Intervals for Biomarkers using Joint Models for Longitudinal and Survival Data’.
10. 2014 July: 2nd Workshop on The Statistical Analysis of Multi-Outcome Data, Cambridge University, UK, ‘Weighted Cumulative Effects and Optimal Timing of Visits in Joint Models for Longitudinal and Survival Data’.
11. 2014 April: Keynote speaker, 3rd Conference on Survival Analysis for Junior Researchers, Warwick, UK, ‘Joint Models for Longitudinal and Event Time Data’.

12. 2013 December: Keynote speaker, Workshop on the celebration of 25 years of the Leuven Statistics Research Centre, Leuven, Belgium, ‘Optimizing Personalized Predictions using Joint Models’.
13. 2013 October: Workshop on Dynamic Predictions for Repeated Markers and Repeated Events, Bordeaux, France, ‘Joint modeling crash course’.
14. 2013 August: Joint Statistical Meetings, roundtable, ‘Recent advances in joint models for longitudinal and time-to-event data’.
15. 2013 June: European Organization for Research and Treatment of Cancer, Courses on Clinical Trial Statistics for Non Statisticians, ‘Prognostic factor models’.
16. 2013 April: 7th Meeting of the East Mediterranean Region of the IBS, ‘Combining joint models with different association structures using Bayesian model averaging’.
17. 2012 November: Workshop on Statistical Challenges in Risk Prediction, Cambridge University, ‘Enhancing risk prediction models using longitudinal measures of risk factors’.
18. 2012 July: Workshop on The Statistical Analysis of Multi-Outcome Data, Université Pierre et Marie Curie – Paris VI, ‘Dynamic predictions using joint models for longitudinal and time-to-event data: The effect of parameterization’.
19. 2012 June: Event of the PSDM group of the Biometrics Section (BMS) of the Netherlands Society for Statistics and Operations Research, ‘An introduction to the use of R for clinical research’.
20. 2012 June: European Organization for Research and Treatment of Cancer, Courses on Clinical Trial Statistics for Non Statisticians, ‘Prognostic factor models’.
21. 2012 April: Department Methodology and Statistics, University of Maastricht ‘Joint models for longitudinal and survival data, and dynamic predictions’.
22. 2012 April: ENAR Spring Meeting, ‘Different parameterizations for joint models for longitudinal and survival data, and how they affect individualized predictions’.
23. 2011 October: Biometrics Section, Medical University of Vienna, ‘Joint models for longitudinal and event time data, and dynamic predictions’.
24. 2011 October: European Organization for Research and Treatment of Cancer, Biostatistics Seminar, ‘Joint models and dynamic predictions’.
25. 2011 May: Department of Statistics, University of Bologna, ‘Choosing optimal weights when fitting latent variable models with the pairwise likelihood’.
26. 2011 April: 3rd Channel Network Meeting, Bordeaux, ‘Prospective accuracy measures in joint models for longitudinal and time-to-event data’.
27. 2011 February: Department of Medical Statistics and Bioinformatics, Leiden University Medical Center, ‘ROC accuracy measures for joint models for longitudinal and survival data’.

28. 2011 February: Department of Pneumology and Respiratory Reanimation, University of Paris-South, ‘The benefits of using joint models for prognosis in pulmonary arterial hypertension’.
29. 2010 December: XXVth International Biometric Conference, ‘Model assessment tools for joint models of longitudinal and time-to-event data’.
30. 2010 September: Visited Department of Biostatistics, Université Victor Segalen, Bordeaux & gave a Seminar ‘Dynamic predictions and prospective accuracy in joint models for longitudinal and time-to-event data’.
31. 2010 August: ISCB 31, Montpellier, France, ‘Fitting high-dimensional joint models for longitudinal and time-to-event data using Laplace approximations’.
32. 2010 June: Italian Statistical Society Meeting, Padova, ‘Joint modelling of longitudinal and time-to-event data: challenges and future directions’.
33. 2010 June: Department of Statistics, University of Rome, ‘Simple residuals plots for joint models for longitudinal and event time data’.
34. 2010 February: Psychometric Computing Workshop, Munich, ‘Marginal maximum likelihood estimation of item response theory models using package `ltm`’.
35. 2010 January: Visited Department of Statistics and Mathematics, WU Wirtschaftsuniversität Wien & gave two Seminars: (i) Fitting multidimensional latent variable models using an efficient Laplace approximation; (ii) The `ltm` package.
36. 2009 October: Belgian Statistical Society Annual Meeting, ‘Challenges in joint modelling of longitudinal and time-to-event data’.
37. 2008 November: Institut de Statistique, Université catholique de Louvain, ‘Laplace approximations for joint models’.
38. 2008 September: CenStat Special Event, Hasselt University, ‘Joint modelling of longitudinal and time-to-event data using an efficient Laplace approximation’.
39. 2008 April: Center for Statistics, Hasselt University, ‘A new computational approach for the joint modelling of longitudinal and survival data with high-dimensional random effects’.
40. 2007 December: Department of Biostatistics, Erasmus Medical Center, ‘Joint modelling of longitudinal and time-to-event data’.
41. 2007 March: Center for Statistics, Hasselt University, ‘Joint modelling of survival and longitudinal outcomes using copulas’.
42. 2006 December: Department of Statistics, Athens University of Economics and Business, ‘Joint modelling of survival and longitudinal outcomes using copulas’.
43. 2006 May: Missing Data Meeting, KULeuven, ‘Sensitivity analysis for shared parameter models using copulas’.

◇ Contributed

1. 2016 July: IBC, ‘Personalized screening intervals for biomarkers using joint models for longitudinal and survival data’
2. 2012 July: IWSM, ‘A pseudo-adaptive Gaussian quadrature rule for fitting joint models for longitudinal and time-to-event data’.
3. 2011 March: ENAR Spring Meeting, ‘Prospective accuracy measures in joint models for longitudinal and time-to-event data’.
4. 2010 August: Joint Statistical Meetings, ‘Fitting high-dimensional joint models for longitudinal and time-to-event data using Laplace approximations’.
5. 2010 March: ENAR Spring Meeting, ‘Bayesian semiparametric multivariate joint models’.
6. 2009 August: ISCB 30, ‘Residuals for joint models for longitudinal and time-to-event data’.
7. 2009 March: ENAR Spring Meeting, ‘Diagnostic tools for joint models for longitudinal and time-to-event data’.
8. 2008 August: useR! meeting, ‘Item response theory using the `ltm` package’.
9. 2008 March: ENAR Spring Meeting, ‘Fully exponential Laplace approximations for the joint modelling of survival and longitudinal data’.
10. 2007 October: Belgian Statistical Society Meeting, ‘A two-part joint model for the analysis of survival and longitudinal binary data with excess zeros’.
11. 2007 August: ISCB 28, ‘A two-part joint model for the analysis of survival times and longitudinal binary data with excess zeros’.
12. 2007 July: IWSM, ‘Joint modelling of time-to-event and longitudinal binary data with excess zeros’.
13. 2006 October: Belgian Statistical Society Meeting, ‘Misspecification in shared parameter models’.
14. 2006 March: ENAR Spring Meeting, ‘Sensitivity analysis for shared parameter models using copulas’.
15. 2005 August: ISCB 26, ‘Sensitivity analysis in pattern mixture models using the extrapolation method’.

ACADEMIC  
ACTIVITIES

- ◇ co-Editor
  - Biostatistics (January 2016 – present)
- ◇ Associate Editor
  - Biostatistics (October 2011 – December 2015)
  - Biometrics (July 2009 – December 2015)
- ◇ Guest Editor

- Statistical Methods in Medical Research, special issue in Joint Modeling Techniques (2013)

◇ Board memberships

- Dutch section of the International Biometric Society (Jul. 2013 – present)
- Representative Council of the International Biometric Society (Nov. 2014 – present)
- conference awards committee member of the International Society for Clinical Biostatistics (Jan. 2011 – present)
- Scientific committee of the International Biometric Conference 2016, Vancouver, Canada
- jury member in 9 PhD defences (x3 Erasmus MC; x4 Hasselt University, Belgium; x1 University of Bordeaux, France; x1 Polytechnic University of Catalonia, Spain)
- member of the Medisch Ethische Toetsings Commissie of Erasmus MC
- member of the CPO (clinically oriented research) board of Erasmus MC

◇ International Short Courses on Joint Modeling

- 2016 August: International Society for Clinical Biostatistics annual conference, Birmingham, UK
- 2016 August: Joint Statistical Meetings, Chicago, USA
- 2016 July: XXVIIIth International Biometrics Conference, Victoria, Canada
- 2016 April: Workshop on Joint Modeling & Beyond, Diepenbeek, Belgium
- 2015 October: SACEMA Centre of Excellence in Epidemiological Modelling and Analysis, Stellenbosch, S. Africa
- 2015 February: Flanders Training Network for Methodology and Statistics, University of Gent, Belgium
- 2014 September: Dept. of Mathematical Sciences, University of Essex, UK
- 2014 May: Dept. of Statistics, Rijksinstituut voor Volksgezondheid en Milieu, the Netherlands
- 2014 May: Institute of Statistics, Biostatistics and Actuarial Sciences, Universite Catholique de Louvain, Belgium
- 2013 October: SACEMA Centre of Excellence in Epidemiological Modelling and Analysis, Stellenbosch, S. Africa
- 2013 August: Joint Statistical Meetings, Montreal, Canada
- 2013 June: Erasmus Medical Center, Rotterdam, the Netherlands
- 2013 April: Macquarie University and George Institute, Sydney, Australia
- 2012 August: XXVIth International Biometrics Conference, Kobe, Japan



- 2012 July: International Workshop on Statistical Modelling, Prague, Czech Republic
- 2010 August: Joint Statistical Meetings, Vancouver, Canada

◇ PhD Graduates

- Eleni-Rosalina Andrinopoulou (09/2010 – 11/2014; topic: survival analysis & joint modeling)
- Magdalena Murawska (11/2009 – 04/2014; topic: multistate models & joint modeling)
- Sara Viviani (visiting student 02/2010 – 07/2010; topic: shared parameter models)

◇ Supervision of PhD Students

- Anirudh Tomer (08/2016 – present; personalized screening intervals using joint models; jointly with prof.dr. Ewout Steyerberg)
- Sara Baart (12/2015 – present; joint models for longitudinal and survival data for case-cohort designs; jointly with prof.dr. Eric Boersma)
- Grigorios Papageorgiou (11/2015 – present; joint models with time-varying treatment strategies)
- Katya Mauff (03/2015 – present; new advances in joint models for longitudinal and survival data)
- Nicole Erler (09/2014 – present; multiple imputation of missing covariates with complex outcomes; jointly with prof.dr. Emmanuel Lesaffre)
- Alberto Garcia Hernandez (05/2013 – present; joint modeling application in pharma industry, part-time)

◇ Supervision of MSc Students

- Judith Rijnhart (09/2014 – present)
- Illary Sbizzera (10/2011 – 03/2012)
- Nathan Touati (04/2010 – 06/2010)

◇ Courses

- 2016 – present: Statistical Analysis of Repeated Measurements Data, NIHES MSc Programs, 1.4 ECTS (course coordinator)
- 2015 – present: Joint Models for Longitudinal and Survival Data, Erasmus Summer Program, 1.4 ECTS (course coordinator)
- 2012 – present: Biostatistics Methods II: Classical Regression Models, NIHES MSc Programs, 4.3 ECTS (course coordinator)
- 2013 – present: Introductory statistics courses for medical students (1st, 2nd and 4th year, Desiderius School)
- 2010 – 2014: Introductory Course for the Quantitative Researcher; NIHES MSc Program, 1.4 ECTS

- 2010 – 2013: Survival Analysis for Clinicians; Erasmus Winter Program 1.9 ECTS (course coordinator)
- 2010 – 2011: A Basic Course in R; MolMed Graduate Courses for PhDs 0.5 ECTS (course coordinator)
- 2009 – 2011: Computational Statistics; Leiden Masters Track Statistical Science Program, 3.0 ECTS (jointly with Prof. dr. P. Eilers)

◇ Professional Affiliations

- American Statistical Association
- International Biometric Society (Dutch & East North American regions)
- Institute of Mathematical Statistics
- International Society for Clinical Biostatistics
- Netherlands Society for Statistics and Operations Research

◇ Referee for

- Annals of Applied Statistics, Annals of Statistics, Australian & New Zealand Journal of Statistics, Biometrical Journal, Biometrics, Biostatistics, Computational Statistics & Data Analysis, Journal of the American Statistical Association, Journal of Probability and Statistics, Journal of Statistical Software, Psychometrika, Statistical Modelling, Statistics in Biopharmaceutical Research, Statistics in Biosciences, Statistics in Medicine

◇ Other

- Organizer of the Mixed Effects Models Working Group at Erasmus MC
- Organizer of the Spring Symposium in Biostatistics, Erasmus MC for 2011; topic: Joint Modeling Techniques with Applications in Longitudinal Studies

SKILLS

◇ Computer Skills

- Computer languages: fluent in R,  $\text{\LaTeX}$ ; some C++ and HTML
- Statistical packages: SPSS
- MS-Office, MS-Windows, MS-DOS

◇ Languages

- Greek: mother tongue
- English: fluent (spoken & written)
- Dutch: advanced level (spoken & written)
- French: basic skills

- WORK  
EXPERIENCE
- ◇ **CPO consultant**, Dept. Biostatistics, Erasmus University Medical Center (September 2008 – present)
    - statistical advice and statistical consulting to members of Erasmus MC
  - ◇ **Research assistant**, Leuven Biostatistics and statistical Bioinformatics Centre, Katholieke Universiteit Leuven (October 2003 – August 2008)
    - statistical advice to members of the Faculty of Medicine
    - statistical analysis of research projects for members of the Faculty of Medicine
    - statistical analysis for clinical trials