

# Dr. math. Mārtiņš Liberts

Gender: male  
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## Summary

I have a broad experience in production of official statistics for more than 15 years. I have been providing mathematical support (sampling, weighting, imputation, precision estimation) for many social, business and agriculture surveys in Latvia and United Kingdom. I have been working as a survey statistics consultant in Azerbaijan, Jordan, and Serbia. My fields of interest are survey sampling and statistical computing.

## Education

### University of Latvia

2007–2013	PhD in Mathematics Subfield: Probability Theory and Mathematical Statistics
2004–2006	Master in Mathematics
1999–2004	Professional Study Programme Mathematician–Statistician, Second-level professional higher education

## Work Experience

### Central Statistical Bureau of Latvia

Since 2015	Deputy Head, Mathematical Support Division, Statistical Methodology and Quality Department
2012–2014	Deputy Head, Mathematical Support Division
2011–2012	Head of Mathematical Support Division
2009–2011	Mathematician of Statistics, Mathematical Support Division
2009	Senior Researcher, Labour Market Analysis Section

### European Social Survey

2017–2019	Expert, Sampling and Weighting Expert Panel
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### Vidzeme University of Applied Sciences

2015–2017	Assistant Professor, Faculty of Society and Science
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### University of Latvia

2014–2017	Lecturer, Faculty of Physics and Mathematics
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## Institute of Mathematics and Computer Science, University of Latvia

2014–2015 | Researcher, Mathematical Technologies Laboratory

## The Secretariat of the Special Assignments Minister for Electronic Government Affairs

2009 | System Analyst, State Information Systems Supervision Division

## The Office for National Statistics (United Kingdom)

2007–2008 | Principal Methodologist, Sample Design and Estimation (Social) Branch

## Central Statistical Bureau of Latvia

2005–2007 | Head of Mathematical Support Division  
2004–2005 | Senior Officer, Mathematical Support Division  
2002–2004 | Officer, Mathematical Support Division  
2000–2002 | Officer, Labour Market Division  
1999–2000 | Statistician, Labour Market Division  
1998 | Principal Specialist, Price Index Division (internship)

## Work in Projects

2017–2018 | The chair of the Steering Committee, [the Baltic–Nordic–Ukrainian Network on Survey Statistics](#)

2017–2018 | The main organiser of the [Workshop of Baltic–Nordic–Ukrainian Network on Survey Statistics 2018](#), Jelgava (Latvia)

2017–2018 | Expert – statistician / mathematician, project “Possibility of developing a system for anticipating labour market reforms and linking medium and long-term labour market forecasts with policy”, Ministry of Economics, Riga, Latvia

2016–2020 | Expert, The Third Network for the Analysis of EU–SILC, work package “Weighting and calibration”

2016–2017 | Project ZD2016/ZP-402 “Harmonisation and preparation of statistical terms in Latvian for publication”, University of Latvia, Riga (Latvia)

Since 2015 | Editor, “Lithuanian Journal of Statistics”, ISSN 1392-642X, eISSN 2029-7262, <http://www.statisticsjournal.lt/>, Vilnius (Lithuania)

2015 | Two days course “Sample Survey Statistics” for TNS Latvia, Riga (Latvia)

2014 | TAIEX Expert Mission on Merging Statistical Surveys, Amman (Jordan)

2013–2015 | EU project “[Strengthening the capabilities of the Department of Statistics in Jordan](#)”, component “Sampling Methodology”, Amman (Jordan)

2013–2014 | TAIEX Expert Mission on Harmonized European Time Use Survey, Baku (Azerbaijan)

2013 | Work in the project “[Evaluation of Higher Education Programmes and Suggestions for Quality Improvement](#)”, Riga (Latvia)

2011–2012 | The main organiser of the “[Workshop of Baltic–Nordic–Ukrainian Network on Survey Statistics 2012](#)”, Valmiera (Latvia)

2010–2011 | Member of DIME Task Force on Accuracy, Eurostat

2008 | Work in the project “The modernisation of study program Mathematician–statistician in University of Latvia”, formatting the electronic version of study course “Management and Analysis of Statistical Data”

## Publications

- Aināre, I., Liberts, M., Zukula, B., Šulca, S., Vaļkovska, J., Opermanis, B., ... Ceriņa, A. (2017). *Method used to produce population statistics* (Methodology report). Riga: Central Statistical Bureau of Latvia. Retrieved from [http://www.csb.gov.lv/sites/default/files/dati/demstat\\_metodologija\\_eng.pdf](http://www.csb.gov.lv/sites/default/files/dati/demstat_metodologija_eng.pdf)
- Berger, Y., Kowarik, A., Liberts, M., & Münnich, R. (2013). Variance estimation methods: description, evaluation criteria and recommendations. In *Handbook on precision requirements and variance estimation for ESS household surveys* (pp. 37–52). Luxembourg: Publications Office of the European Union. Retrieved from <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-13-029> doi: 10.2785/13579
- Breidaks, J., Liberts, M., & Ivanova, S. (2017). *vardpoor: Estimation of indicators on social exclusion and poverty and its linearization, variance estimation*. Riga, Latvia. Retrieved from <https://csblatvia.github.io/wardpoor/> (R package version 0.9.11)
- Breidaks, J., Liberts, M., & Jukams, J. (2017). *surveyplanning: Survey planning tools*. Riga, Latvia. Retrieved from <https://csblatvia.github.io/surveyplanning/> (R package version 2.9)
- Hurtik, P., Hodakova, P., Perfilieva, I., Liberts, M., & Asmuss, J. (2015, Aug). Network attack detection and classification by the F-transform. In *2015 IEEE international conference on fuzzy systems (FUZZ-IEEE)* (p. 1-6). Retrieved from [https://www.researchgate.net/publication/280625659\\_Network\\_Attack\\_Detection\\_and\\_Classification\\_by\\_the\\_F-transform](https://www.researchgate.net/publication/280625659_Network_Attack_Detection_and_Classification_by_the_F-transform) doi: 10.1109/FUZZ-IEEE.2015.7337991
- Liberts, M. (2010a). The redesign of Latvian Labour Force Survey. In M. Carlson, H. Nyquist, & M. Vilani (Eds.), *Official statistics – methodology and applications in honour of Daniel Thorburn* (pp. 193–203). Stockholm, Sweden: Stockholm University. Retrieved from <http://officialstatistics.files.wordpress.com/2010/05/bok16.pdf>
- Liberts, M. (2010b). The weighting in household sample surveys. In O. Krastiņš & I. Vanags (Eds.), *The results of statistical scientific research 2010* (pp. 168–174). Riga: Central Statistical Bureau of Latvia. Retrieved from [http://home.lu.lv/~pm90015/p/Liberts\\_2010\\_Weighting.pdf](http://home.lu.lv/~pm90015/p/Liberts_2010_Weighting.pdf)
- Liberts, M. (2013a). The cost efficiency of sampling designs. *Statistics in Transition – new series*, 14(1), 7–30. Retrieved from [http://stat.gov.pl/download/gfx/portalinformacyjny/en/defaultstronaopisowa/3432/1/1/sit\\_14\\_1\\_2013.pdf](http://stat.gov.pl/download/gfx/portalinformacyjny/en/defaultstronaopisowa/3432/1/1/sit_14_1_2013.pdf)
- Liberts, M. (2013b). *The optimisation of sampling design* (Doctoral thesis, University of Latvia, Riga). Retrieved from [http://home.lu.lv/~pm90015/p/Liberts\\_2013\\_PhD.pdf](http://home.lu.lv/~pm90015/p/Liberts_2013_PhD.pdf)
- Liberts, M. (2013c). Sources of variability of an estimator. In *Handbook on precision requirements and variance estimation for ESS household surveys* (pp. 31–36). Luxembourg: Publications Office of the European Union. Retrieved from <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-13-029> doi: 10.2785/13579

## Academic Experience

### University of Latvia

#### Master Study Programme in Mathematics

2016–2017 | Supervisor of master thesis

#### Professional Bachelor Study Programme “Mathematician Statistician”

2018 | Member of the defence committee  
2015–2017 | The chair of the defence committee  
2015–2016 | Supervisor of bachelor thesis  
2014–2015 | Supervisor of practical works

#### Second Level Professional Higher Education Study Programme “Mathematician Statistician”

2014–2015 | The chair of the defence committee  
2009–2013 | Member of the defence committee  
2007–2014 | Supervisor of diploma thesis  
2005–2013 | Supervisor of practical works

## Participation in Conferences with Presentation

- 2016 | [The Fifth International Conference on Establishment Surveys \(ICES-V\)](#), Geneva (Switzerland), software demonstration “R package `vardpoor`”
- 2015 | [The Fourth Baltic-Nordic Conference on Survey Statistics – BaNoCoSS-2015](#), Helsinki (Finland), invited speaker with presentation “European Health Interview Survey in Latvia – Challenges and Opportunities”
- 2015 | The 73rd Annual Scientific Conference of the University of Latvia, Riga (Latvia), joint presentation with Bruno Opermanis “Application of Statistical Classification in the Production of Population Statistics”
- 2014 | [Natural sciences and mathematics at school—effectively and creatively](#), Riga (Latvia), invited presentation “Mathematician”
- 2014 | [25th Nordic Conference in Mathematical Statistics \(Nordstat\)](#), Turku (Finland), poster “Classification of Network Traffic with Attacks”
- 2014 | [The 10th Latvian Mathematical Conference and the 2nd International Conference on High Performance Computing and Mathematical Modelling](#), Liepāja (Latvia), invited presentation “Application of statistical classifier for the production of population statistics”
- 2013 | The 71st Annual Scientific Conference of the University of Latvia, Riga (Latvia), presentation “Cost Efficiency Estimation for Sample Surveys”
- 2012 | [The 24th Nordic Conference in Mathematical Statistics \(Nordstat\)](#), Umeå (Sweden), presentation “Survey design analysis regarding cost efficiency”
- 2011 | [The Third Baltic-Nordic Conference on Survey Statistics \(BaNoCoSS-2011\)](#), Norrfällsviken (Sweden), presentation “Simulation study of sampling design in Labour Force Survey”
- 2010 | [The 10th International Vilnius Conference on Probability and Mathematical Statistics](#), Vilnius (Lithuania), presentation “Self-rotating sampling design”
- 2010 | [The 8th Latvian Mathematics Conference](#), Valmiera (Latvia), presentation “Self-rotating Sampling Design”
- 2010 | [The 68th Annual Scientific Conference of the University of Latvia](#), Riga (Latvia), presentation “Optimisation of Sampling Design”
- 2009 | The 67th Annual Scientific Conference of the University of Latvia, Riga (Latvia), presentation “One Year Abroad—The Production of Statistics in UK”
- 2008 | The 66th Annual Scientific Conference of the University of Latvia, Riga (Latvia), presentation “Planning of Two Stage Sampling Design”
- 2007 | [The Second Baltic-Nordic Conference on Survey Sampling \(BaNoCoSS2\)](#), Kuusamo (Finland), joint paper with Jānis Lapiņš “Estimation of monthly figures from Labour Force Survey”
- 2004 | [The 20th Nordic Conference on Mathematical Statistics \(Nordstat\)](#), Jyväskylä (Finland), presentation “Quality Analysis of a Sample Survey on Transportation of Goods by Road”
- 2002 | Baltic-Nordic Conference on Survey Sampling (BaNoCoSS), Ammarnäs (Sweden), poster “Quality Evaluation of the Labour Cost Survey”

## Participation in Other Events with Presentation

- 2017 | Workshop of BNU Network on Survey Statistics, Vilnius (Lithuania), contributed paper “Methodology and results of the micro census in Latvia”
- 2017 | Seminar “[Advanced Methods for Small Area and Other Experimental Statistics](#)”, Riga (Latvia), presentation “Estimation and Preliminary Results of Poverty Mapping for Latvia”
- 2017 | European Big Data Hackathon, Brussels (Belgium), joint participation with Jānis Jukāms and Aleksis Jurševskis, development of data product “Labour Balance App for EU28”, <https://csblatvia.shinyapps.io/EBDH-LV/>
- 2016 | Seminar of Latvian Statistical Society, Riga (Latvia), joint paper with Juris Breidaks “Sample Error Estimation with R package `vardpoor`”
- 2016 | MINOX 2016, Riga (Latvia), joint poster with Juris Breidaks “R Package `vardpoor` for Precision Estimation of Sample Survey Statistics”
- 2016 | Summer School on Survey Statistics, Kyiv (Ukraine), invited lecture “R tutorial”

2014	Workshop of BNU Network on Survey Statistics, Tallinn (Estonia), joint paper with Jānis Lapiņš “Sampling for the Household Finance and Consumption Survey in Latvia”
2013	Seminar of Latvian Statistical Society, Riga (Latvia), joint paper with Baiba Zukula “Methodology for the Estimation of Population Statistics”
2013	Career Week for Students, Riga (Latvia), invited speech “Mathematics and Statistics are Needed”
2013	Summer School on Survey Statistics Theory and Methodology, Minsk (Belarus), lecture “The choice of a sampling design regarding survey cost efficiency”
2012	Workshop of Baltic-Nordic-Ukrainian Network on Survey Statistics, Valmiera (Latvia), presentation “The Simulation Study of Survey Cost and Precision”
2011	Baltic Census Seminar, Tallinn, presentation “Census quality reporting: The draft ‘EU Census Board’”
2010	Baltic-Nordic-Ukrainian Workshop on Survey Statistics, Vilnius (Lithuania), lecture “Weighting and Estimation in Household Surveys with Rotating Panel”
2010	Workshop on Labour Force Survey Methodology, Paris (France), presentation “Self-rotating sampling design in Latvian LFS”
2009	Baltic-Nordic-Ukrainian Summer School on Survey Sampling, Kyiv (Ukraine), invited lecture “Survey sampling methodology in official statistics in Latvia”
2008	Workshop on Survey Sampling Theory and Methodology, Kuressaare (Estonia), invited lecture “Weighting and estimation of sampling errors in the UK Annual Population survey”
2007	Task Force Meeting on Introduction of NACE Rev. 2 and base year 2005, Luxembourg, presentation “Use of domain estimation in relation with back-casting”
2007	Eurostat Labour Cost Index Workshop on NACE 2, Luxembourg, joint presentation of Baltic Countries “Implementation of NACE Rev.2 in the Labour Cost Index”
2006	Eurostat and Statistics Finland Methodological Workshop on EU-SILC, Helsinki (Finland), presentation “Variance estimation in EU-SILC survey”
2006	Workshop on Survey Sampling Theory and Methodology, Ventspils (Latvia), presentations “Variance estimation in EU-SILC survey” and “Training on R-language”
2005	Workshop on Survey Sampling Theory and Methodology, Vilnius (Lithuania), presentation “Estimation of Sampling Errors in Complex Statistics”
2004	Workshop on Survey Sampling Theory and Methodology, Tartu (Estonia), presentation “Non-response analysis and bias estimation in a survey on transportation of goods by road”
2003	Workshop on Survey Sampling Theory and Methodology, Palanga (Lithuania), presentation “Quality Analysis of Labour Force Survey”

## Study Visits

2011	Study visit at Umeå University (Sweden), topic “The Optimisation of Sampling Design”, presentation “Some Aspects on Simulation Study of a Sampling Design”
2010	Study visit at Tartu University (Estonia), presentation “Survey Sampling Methodology in the Official Statistics of Latvia”
2006	Study visit at Stockholm University (Sweden), topic “Estimation of sampling errors for complex statistics”
2004	Study visit at Umeå University (Sweden), topic “Quality Analysis of the Survey on Transportation of Goods by Road”
2002	Study visit at Umeå University (Sweden), topic “Survey Sampling Theory”

## Additional Information

### Statistical Courses

2017	ESTP course “Can a Statistician Become a Data Scientist?” by DevStat, Valencia (Spain)
2017	Online course “DAT213x: Analyzing Big Data with Microsoft R Server” by Microsoft, <a href="#">certificate</a>
2016	Short course during the ICES-V “Small Area Estimation”, Geneva (Switzerland)
2014	Course “Regression Analysis”, Riga (Latvia)

2011	ESTP course “Statistical Disclosure Control”, Luxembourg
2008	Amadeus course “SAS Fundamentals”, Newport (United Kingdom)
2007	IASS course “Survey Sampling”, Lisbon (Portugal)
2007	IASS course “Variance Estimation in Complex Surveys”, Lisbon (Portugal)
2005	ESTP course “Advanced Methods of Survey Sampling”, Neuchâtel (Switzerland)
2003	ESTP course “Survey Non-response: Reduction, Weighting and Imputation”, Neuchâtel (Switzerland)
2002	ESTP course “Measurement of the Quality of Statistics”, Paris (France)
2000	TES course “Seasonal Adjustment Methods”, Tallinn (Estonia)
1999	Course “NewView 1.0”, Riga (Latvia)

## Language and Other Courses

2013	Riga Business School course “Effective Presentations in English”, Riga (Latvia)
2013	ESTP course “Presentation, facilitation and consultation skills for statistical trainers–Advanced course”, Wiesbaden (Germany)
2011	Course “Korupcijas novēršana”, Riga (Latvia)
2007	Course “Ierēdņu darbības novērtējums”, Riga (Latvia)
2005	Course “Personālvadība III–Palīgintervijas personāla vadībā: sūdzību, disciplinārās, padomdošanas un darba rezultātu vērtēšanas intervijas”, Riga (Latvia)
2005	Course “Personālvadība II–Atlases procesa organizēšana un atlases interviju vadīšana”, Riga (Latvia)
2004	Course “Angļu valoda darbā (C)”, Riga (Latvia)
2004	Course “English Language Course–Intermediate”, Riga (Latvia)
2004	Course “Eiropas Savienības pamatnostādnes”, Riga (Latvia)

## Membership in Societies

Since 2017	European Council of Doctoral Candidates and Junior Researchers (Eurodoc), delegate of Latvia
Since 2014	Association of Latvian Young Scientists (ALYS), consultative board member and webmaster since 2016
Since 2014	International Association for Official Statistics (IAOS)
Since 2012	International Statistical Institute (ISI)
Since 2010	Latvian Mathematical Society
Since 2010	Latvian Statistical Society, webmaster since 2015, board member since 2018
Since 2007	International Association of Survey Statisticians (IASS), representative of Latvia since 2010

## Achievements and Awards

2018	The most precise project manager, Central Statistical Bureau of Latvia, Riga
2015	Acknowledgement for significant contribution to the development of the Latvian Statistical System and the facilitation of international identification of the Central Statistical Bureau of Latvia
2013	The first place of the competition organised by the Latvian Statistical Society for the contribution to the research in the field of statistics
2012	Scholarship in the project “Support for Doctoral Studies at the University of Latvia-2”
2011	Scholarship of Linda Peetre Memorial Fund (Sweden)
2009	Scholarship in the project “Support for Doctoral Studies at the University of Latvia”
2007	Scholarship in a project “Support to research activity of PhD students and young researchers at University of Latvia”
2005	Master SPSS 10 Certificate by Brainbench (USA)
2003	Winner of Kristaps Morbergs’ scholarship in University of Latvia

## Skills

Languages	Latvian, English, Russian
Tools	R, R Shiny, MS SQL, IBM SPSS Statistics, gretl, SAS, $\text{\LaTeX}$ , HTML, CSS
Skills	Administration of RStudio Server on CentOS server
Auto	Driving licence (B category) since 2000

## Hobbies

Since 2014 | Long-distance running, trail running

6th May 2018<sup>1</sup>

Dr. math. Mārtiņš Liberts

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<sup>1</sup>The latest CV available at: [http://home.lu.lv/~pm90015/work/CV/CV\\_Martins\\_Liberts\\_EN.pdf](http://home.lu.lv/~pm90015/work/CV/CV_Martins_Liberts_EN.pdf)