CURRICULUM VITAE

Małgorzata Bogdan
e-mail Malgorzata.Bogdan@uwr.edu.pl

PROFESSIONAL PREPARATION

Wroclaw University of Technology	MSc	1992	Applied Mathematics
Wroclaw University of Technology	PhD	1996	Mathematical Statistics
Polish Academy of Sciences	Habilitation	2009	Computer Science
President of Poland	Title of Professor	2020	Mathematics

EMPLOYMENT

Research and Teaching Assistant, Wrocław University of Technology, 1992–1997
Assistant Professor, Wrocław University of Technology, 1997 – 2011
Associate Professor, Wrocław University of Technology, 2011 – 2016
Associate Professor, University of Wrocław, 2015 – 2020
Professor, University of Wrocław, 2020 - present
Guest Professor, Lund University, 2018 - present

VISITING POSITIONS AND OTHER FUNCTIONS

Visiting Scholar and Lecturer	University of Washington	01.2000 – 08.2000
Limited Term Lecturer	Purdue University	08.2000 – 12.2000
Visiting Assistant Professor	Purdue University	01.2001 – 12.2001
		01.2004 – 08.2004
		06.2005 – 08.2005
		06.2006 – 08.2006
		01.2007 – 05.2007
		06.2007 – 08.2007
		08.2009 – 01.2010
Visiting Lecturer	Vienna University	03.2006, 12.2008
Fulbright Scholar	Stanford University	08.2012 – 05.2013
Visiting Associate Professor	Stanford University	05.2013 – 08.2013
Associate Professor	Akademia Jana Długosza	10.2010 – 09.2013
Member of Presidium of the Mathematical Committee of Polish Academy of Sciences		2012–2016

Head of the Committee of Applied Mathematics of Polish Academy of Sciences	2016–2020
Head of the Committee of Statistics of Polish Academy of Sciences	2020–present
Member of the Steering Committee of the Polish-German Center for Advanced Systems UnderStanding (CASUS)	2020-present
President of the Jury of the Polish Mathematical Society Contest for the Best Student's Work on the Probability and Applications of Mathematics	2020-present

AWARDS, HONORS

1988, 1989, 1991 Most popular student-sportsman of the Wrocław University of Technology.

1992 First prize at the Contest of the Polish Mathematical Society for the best student's work on the probability theory and applications of mathematics (for Master's thesis "Asymptotic distributions of linear combinations of order statistics").

2007, 2008 Women for Math Science Award from the Department of Mathematics, Munich University of Technology

2012-2013 Fulbright scholarship to visit the Department of Statistics at Stanford University.

2012-present Elected Member of the Mathematical Committee of the Polish Academy of Sciences.

2020 Hugo Steinhaus Award of the Polish Mathematical Society

GRANTS

1992,1994 "Decision methods and their applications", researcher (principal investigator S. Trybuła), Polish Committee for Scientific Research.

1993–1996 "Adaptive statistical procedures", researcher (principal investigator T. Ledwina), Polish Committee for Scientific Research

2003–2004 "Statistical methods in Bioinformatics and Molecular Genetics", principal investigator (with A. Futschik), international cooperation grant of MNiSW and OAD.

2005–2006 “Topics in Biostatistics and Molecular Genetics”, principal investigator (with A. Futschik), international cooperation grant of MNiSW and OAD.

2007–2008 “Statistical issues in modeling genetic data”, principal investigator (with A. Futschik), international cooperation grant of MNiSw and OAD.

2006–2008 “Adaptive versions of Bayesian Information Criterion for multiple regression”, principal investigator, MNiSW.

2009-2010 “Statistical issues in data mining - optimal rules for high dimensional model selection and multiple testing”, principal investigator (with F. Frommlet), international cooperation grant of MNiSW and OAD.

2010-2012 “Optimal selection procedures in genome wide association studies (GWAS)”, project sponsored by Wiener Wissenschafts-, Forschungs- und Technologiefonds, international partner, PI - Florian Frommlet.

2010-2012 “Model selection criteria and multiple testing in searching through large data bases”, principal investigator, MNiSW.

2010-2012 “Bayesian versions of logic regression in application for localizing multiple interacting quantitative trait loci”, PhD research project of Magdalena Malina, project director, MNiSW.

2011-2014 “Methods of machine learning for prediction of protein contact sites”, researcher (principal investigator M. Kotulska), MNiSW

2013-2017 ”Integrated design and analysis of small population group trials”, EU FP7 Collaborative Project, Leader of Workpage 8: ”Genetic factors influencing the response to the therapy in small population group trials”, (project coordinator Prof. Ralf-Dieter Hilgers, Uinversitaetsklinikum Aachen).

2017-2020 ”High dimensional model selection with SLOPE - theoretical properties and applications”, PI, NCN.

2020-2024 ”Model selection for high dimensional data, with application towards genetics”, PI, Swedish Research Council.

PUBLICATIONS

Books

1. F. Frommlet, M. Bogdan, D. Ramsey, *"Phenotypes and Genotypes: Search for Influential Genes"*, Springer Series in Computational Biology, 2016.

2. M. Bogdan, F. Frommlet, "Identifying important predictors in large data bases– multiple testing and model selection", chapter in *"Handbook of Multiple Comparisons"*, X.Cui, T. Dickhaus, Y. Ding, J. C. Hsu (Eds.), ChapmanHall/CRC, pp: 139-182, 2022.

Journal Articles

1. F. Frommlet, P. Szulc, F König, M. Bogdan, "Selecting predictive biomarkers from genomic data", *PloS one*, 17 (6), e0269369, 2022.

2. P. J. C. Tardivel, M. Bogdan, "On the sign recovery by LASSO, thresholded LASSO and thresholded Basis Pursuit Denoising", *Scandinavian Journal of Statistics*, DOI: 10.1111/sjos.12568, 2022.

3. A. Narendra, S. J. Gibson, M. G. Dainotti, M. Bogdan, A. Pollo, I. Liodakis, A. Poliszczuk, "Predicting the redshift of gamma-ray loud AGNs using Supervised Machine Learning: Part 2", *The Astrophysical Journal Supplement Series*, 259 (2), 55, 2022.

4. M.G. Dainotti, B. De Simone, T. Schiavone, G. Montani, E. Rinaldi, G. Lambiase, M. Bogdan, S. Ugale, "On the evolution of the Hubble constant with the SNe Ia Pantheon sample and baryon acoustic oscillations: a feasibility study for GRB-cosmology in 2030", *Galaxies* 10 (1), 24, 2022.

5. W. Jiang, M. Bogdan, J. Josse, B. Miasojedow, V. Rockova, TB Group, "Adaptive bayesian SLOPE – high-dimensional model selection with missing values", *Journal of Computational and Graphical Statistics*, 31 (1), 113-137, 2022.

6. S.J. Gibson, A. Narendra, M.G. Dainotti, M. Bogdan, A. Pollo, A. Poliszczuk, E. Rinaldi, I. Liodakis, "Using Multivariate Imputation by Chained Equations to Predict Redshifts of Active Galactic Nuclei", *Frontiers in Astronomy and Space Sciences*, 16, 2022.

7. P. Kremer, D. Brzyski, M. Bogdan, S. Paterlini, "Sparse index clones via the sorted L_1-norm", *Quantitative Finance*, DOI: 10.1080/14697688.2021.1962539, 2021.

8. M. G. Dainotti, M. Bogdan, A. Narendra, S. J. Gibson, B. Miasojedow, I. Liodakis, A. Pollo, T. Nelson, K. Wozniak, Z. Nguyen, J. Larrson, "Predicting the redshift of gamma-ray loud AGNs using supervised machine learning", *Astrophysical Journal*, **920**: 118, 2021.

9. J. Wallin, M. Bogdan, P.A. Szulc, R.W. Doerge, D.O. Siegmund, "Ghost QTL and hotspots in experimental crosses: novel approach for modeling polygenic effects", *Genetics*, Volume 217, Issue 3, March 2021, https://doi.org/10.1093/genetics/iyaa041.

10. J. Larsson, M. Bogdan, J. Wallin, "The strong screening rule for SLOPE", *Advances in Neural Information Processing Systems 33 (NeurIPS 2020)*, 33, 14592–14603, 2020.

11. W. Rejchel, M. Bogdan, "Rank-based Lasso-efficient methods for high-dimensional robust model selection", *Journal of Machine Learning Research*, 21 (244), 1-47, 2020.

12. M. Kos, M. Bogdan, "On the asymptotic properties of slope", *Sankhya A*, 82(2), 499-532, 2020.

13. P.J. Kremer, S. Lee, M. Bogdan, S. Paterlini, "Sparse portfolio selection via the sorted L1-Norm", *Journal of Banking and Finance* 110, 105687, 2020.

14. M. Kos, M. Bogdan, N. W. Glynn, J. Harezlak, "Classification of human physical activity based on raw accelerometry data via spherical coordinate transformation", *Statistics in Medicine*, 39(22), 2901-2920, 2020.

15. M. Bogdan, B. Miasojedow, J. Wallin, Discussion of "A Novel Algorithmic Approach to Bayesian Logic Regression" by A. Hubin, G. Storvik, F. Frommlet, *Bayesian Analysis*, 15(1), 295–301, 2020,

16. S.Lee, P.Sobczyk, M.Bogdan, "Structure Learning of Gaussian Markov Random Fields with False Discovery Rate Control", *Symmetry* 11 (10), 1311, 2019.

17. D. Brzyski, A. Gossmann, W.Su, M. Bogdan, "Group SLOPE - adaptive selection of groups of predictors", *Journal of the American Statistical Association*, 114(525), 419–433, 2019.

18. R.-D. Hilgers, M. Bogdan, C.-F. Burman, H. Dette, M. O. Karlsson, F. König, C. Male, F. Mentré, G. Molenberghs, S. J. Senn, "Lessons learned from IDeAl â 33 recommendations from the IDeAl-Net about design and analysis of small population clinical trials", *Orphanet Journal of Rare Diseases*, **13**:77, 2018.

19. P. Szulc, M. Bogdan, F. Frommlet, H. Tang, " Joint Genotype- and Ancestry-based Genome-wide Association Studies in Admixed Populations", *Genetic Epidemiology*, **41** (6), 555–566, 2017.

20. P. Sobczyk, M. Bogdan, J. Josse, "Bayesian dimensionality reduction with PCA using penalized semi-integrated likelihood", *Journal of Computational and Graphical Statistics*, **26**, 826–839, 2017.

21. W.Su, M. Bogdan, E.J. Candès, "False Discoveries Occur Early on the Lasso Path", *Annals of Statistics*, **45** (5), 2133 – 2150, 2017.

22. R.D. Hilgers, M. Bogdan, C.F. Burman, H. Dette, M. Karlsson, F. Koenig, C. Male, F. Mentré, G. Molenberghs, S. Senn, "Integrated Design and Analysis of small population group trials - IDEAL - FP7". *Impact*, **4**, 14–16, 2017.

23. D. Brzyski, C.B. Peterson, P.Sobczyk, E.J. Candès, M. Bogdan, C. Sabatti, "Controlling the rate of GWAS false discoveries"', *Genetics*, **205**, 61–75, 2017.

24. S. Lee, D. Brzyski, M. Bogdan, "Fast Saddle-Point Algorithm for Generalized Dantzig Selector and FDR Control with the Ordered l_1-Norm", *Proceedings of the 19th International Conference on Artificial Intelligence and Statistics, JMLR:W and CP* **vol.51**, 780–789, 2016.

25. M. Bogdan, E. van den Berg, C. Sabatti, W. Su, E. J. Candès, "SLOPE – Adaptive Variable Selection via Convex Optimization", *Annals of Applied Statistics*, **9** (3), 1103–1140, 2015.

26. M. Malina, K. Ickstadt, H. Schwender, M. Posch, M. Bogdan, "Detection of epistatic effects with logic regression and a classical linear regression model", *Statistical Applications in Genetics and Molecular Biology*, **13**, 83â104, 2014.

27. F. Frommlet, M. Bogdan, "Some optimality properties of FDR controlling rules under sparsity", *Electronic Journal of Statistics*, **7**, 1328–1368, 2013.

28. R. Dutta, M. Bogdan, J. K. Ghosh, "Model selection and multiple testing - A Bayes and empirical Bayes overview and some new results" *Journal of the Indian Statistical Association*, **50**, 105–142, 2012.

29. F. Frommlet, I. Ljubic, H. Arnardottir, M. Bogdan, "QTL Mapping Using a Memetic Algorithm with Modifications of BIC as Fitness Function" *Statistical Applications in Genetics and Molecular Biology*, 11 (4) Art.2, 2012.

30. F. Frommlet, F. Ruhaltinger, P. Twaróg, P., M. Bogdan, "A model selection approach to genome wide association studies", *Computational Statistics and Data Analysis*, **56**, 1038-1051, 2012.

31. P. Szulc, M. Bogdan, "Localizing influential genes with modified versions of Bayesian Information Criterion" *Mathematica Applicanda*, **40**, 3–14, 2012.

32. M. Żak-Szatkowska, M. Bogdan, "Modified versions of Bayesian Information Criterion for sparse Generalized Linear Models", *Computational Statistics and Data Analysis*, 55: 2908-2924, 2011.

33. M. Bogdan, A. Chakrabarti, F. Frommlet, J.K. Ghosh, "Asymptotic Bayes Optimality under sparsity of some multiple testing procedures", *Annals of Statistics*, **39**: 1551–1579, 2011.

34. V. Erhardt, M. Bogdan, C. Czado,"Locating Multiple Interacting Quantitative Trait Loci with the Zero-Inflated Generalized Poisson Regression", *Statistical Applications in Genetics and Molecular Biology*, **Vol 9 : Iss. 1**, Article 26, 2010.

35. J. K. Ghosh, M. Bogdan, T. Samanta "Applied Statistics and the Indianness of Indian Data", *Sankhya, Ser. B*, **70**:1–17, 2008.

36. M. Bogdan, J. K. Ghosh, M.Żak-Szatkowska "Selecting explanatory variables with the modified version of Bayesian Information Criterion", *Quality and Reliability Engineering International*, **24**: 627–641, 2008.

37. M. Bogdan, F. Frommlet, P. Biecek, R. Cheng, J. K. Ghosh, R. W. Doerge " Extending the Modified Bayesian Information Criterion (mBIC) to dense markers and multiple interval mapping", *Biometrics*, **64**: 1162–1169, 2008.

38. M. Bogdan, J. K. Ghosh, S. T. Tokdar "A comparison of the Simes-Benjamini-Hochberg procedure with some Bayesian rules for multiple testing", IMS Collections, **Vol.1**, Beyond Parametrics in Interdisciplinary Research: Fetschrift in Honor of Professor Pranab K. Sen, edited by N. Balakrishnan, Edsel Peña and Mervyn J. Silvapulle, pp. 211–230, 2008, Beachwood Ohio.

39. M. Bogdan, J. K. Ghosh, A. Ochman, S. T. Tokdar " On the Empirical Bayes approach to the problem of multiple testing", *Quality and Reliability Engineering International*, **23**: 727–739, 2007.

40. M. Żak, A. Baierl, M. Bogdan A. Futschik "Locating multiple interacting quantitative trait loci using rank-based model selection", *Genetics*, **176**: 1845–1854, 2007.

41. A. Baierl, A. Futschik, M. Bogdan, P. Biecek "Locating multiple interacting quantitative trait loci using robust model selection", *Computational Statistics and Data Analysis*, **51**: 6423-6434, 2007.

42. F.Frommlet, M. Bogdan, A. Futschik "Power Analysis of Database Search using Multiple Scoring Matrices", *Computational Statistics and Data Analysis*, **51**: 1656–1663, 2006.

43. A. Baierl, M. Bogdan, F. Frommlet and A. Futschik "On Locating Multiple Interacting Quantitative Trait Loci in Intercross Designs", *Genetics*, **173**: 1693-1703, 2006.

44. M. Bogdan and R. W. Doerge "Biased estimators of QTL heritability and location in interval mapping", *Heredity* **95**: 476ï¿œ-484, 2005.

45. M. Bogdan, J. K. Ghosh and R. W. Doerge, "Modifying the Schwarz Bayesian Information Criterion to locate multiple interacting quantitative trait loci", *Genetics* **167**:989–999, 2004.

46. F. Frommlet, A. Futschik and M. Bogdan, "On the significance of sequence alignments when using multiple scoring matrices", *Bioinformatics* **20** (6): 881-887, 2004.

47. F. Frommlet, A. Futschik, M. Bogdan, "Sequence Alignments with Multiple Scoring Matrices." Proceedings of the GCB 03 (German Conference on Bioinformatics), H.W. Mewes, V. Heun, D. Frishman, S. Kramer (eds.), vol. I, 41 – 45, 2003.

48. M.Bogdan, K.Bogdan and A.Futschik, "A data driven smooth test for circular uniformity", *Ann. Inst. Stat. Math.* **54**:29-44, 2002.

49. N. H. Chapman, M. Badzioch, M. Bogdan, E. M. Conlon, E. W. Daw, F. Gagnon, A-L. Leutenegger, N. Li, J. M. Maia, E. M. Wijsman, E. A. Thompson, "The importance of connections: Joining components of the Hutterite Pedigree", *Genetic Epidemiology* 21(Suppl 1):S230-S235, 2001.

50. M.Bogdan, "Data driven versions of Neyman's test for goodness-of-fit based on Bayesian rule", *J. Statist. Comput. Simul.*, 68(3):203–222, 2001.

51. K. Bogdan, M. Bogdan, "On existence of maximum likelihood estimators in exponential families", *Statistics*, 34: 137–149, 2000.

52. M. Bogdan, "Data driven smooth tests for bivariate normality", *Journal of Multivariate Analysis*, 68: 26–53, 1999.

53. M. Bogdan and T. Ledwina, "Testing uniformity via log–spline modeling" , *Statistics*, 28:131–157, 1996.

54. M. Bogdan, "Data driven versions of Pearson's chi-square test for uniformity", *J. Statist. Comput. Simul.*, 52:217–237, 1995.

55. M. Bogdan, "Asymptotic distributions of linear combinations of order statistics", *Applicationes Mathematicae*, 22:201–225, 1994.

PUBLISHED ABSTRACTS

1. A. W. George, M. Bogdan, E. M. Wijsman, E. A. Thompson, " Markov chain Monte Carlo methods for the calculation of likelihoods in genetic linkage studies", *Am. J. Hum. Genet.* **69**(4): (Suppl. 1) 1337, 2001.

2. M. Bogdan, J.K. Ghosh, R.W. Doerge, P. Biecek, A. Baierl, A. Futschik, F. Frommlet, "Modified version of Bayesian Information criterion for localization of multiple interacting quantitative trait loci", *Ann. Hum. Gen.* **69**: 765, 2005.

3. M. G. Dainotti, M. Bogdan, B. Miasojedow, S. Nagataki, V. Petrosian, T. Hastie, H. Xavier, "A methodology to use Gamma-ray Bursts as distance indicators by a machine learning approach", *Gamma-ray Bursts in the Gravitational Wave Era*, 141-143, 2019.

4. B. De Simone, M. Dainotti, T. Schiavone, G. Montani, E. Rinaldi, G. Lambiase, M. Bogdan, S. Ugale, "On the evolution of the Hubble constant through Supernovae Ia, Baryon Acoustic Oscillations: new perspectives on the GRB-cosmology", *American Astronomical Society Meeting Abstracts* 54 (6), 202.14, 2022.

TECHNICAL REPORTS AND PREPRINTS

1. M. Bogdan, A. Chakrabarti, F. Frommlet, J.K. Ghosh, "The Bayes oracle and asymptotic optimality of multiple testing procedures under sparsity", arXiv:1002.3501v1, 2010.

2. M. Bogdan, E. van den Berg, W. Su, E.J. Candès, "Statistical estimation and testing via the ordered ℓ_1 norm", arXiv:1310.1969, 2013.

3. A. Virouleau, A. Guilloux, S. Gaiffas, M. Bogdan "High-dimensional robust regression and outliers detection with SLOPE", arXiv:1712.02640, 2017.

4. P. Sobczyk, S. Wilczynski, M. Bogdan, P. Graczyk, J. Josse, F. Panloup, V. Seegers, M. Staniak, "VARCLUST: clustering variables using dimensionality reduction", arXiv:2011.06501, 2020.

5. A. Weinstein, W.J. Su, M. Bogdan, R.F. Barber, E.J. Candés, "A power analysis for knockoffs with the lasso coefficient-difference statistic", arXiv:2007.15346, 2020.

6. R. Riccobello, G. Bonaccolto, P. Kremer, S. Paterlini, M. Bogdan, "Sparse Graphical Modelling for Minimum Variance Portfolios", SSRN 4099586, 2022.

7. R. Riccobello, M. Bogdan, G. Bonaccolto, P.J. Kremer, S. Paterlini, P. Sobczyk, "Sparse Graphical Modelling via the Sorted L-Norm", arXiv:2204.10403, 2022.

8. M. Bogdan, X. Dupuis, P. Graczyk, B. Kolodziejek, T. Skalski, P. Tardivel, M. Wilczynski, "Pattern recovery by SLOPE", arXiv:2203.12086, 2022.

EDITORIAL WORK

- Member of the Editorial Board of *Scientific Reports*: 2012-2016
- Member of the Editorial Board of *Statistics*: 2012-present

- Member of the Editorial Board of *Scandinavian Journal of Statistics*: 2017-present
- Member of the Editorial Board of *Computational Statistics and Data Analysis*:2016
- Statistics expert for *The Plant Cell* : 2008 – 2013

Reviewer for:

Annals of Statistics, Journal of Time Series Analysis, Electronic Journal of Statistics, Scandinavian Journal of Statistics, Genetics, Bioinformatics, Briefings in Bioinformatics, Bernoulli, Statistical Applications in Genetics and Molecular Biology, Human Heredity, Heredity, Journal of the Royal Statistical Society Ser.B, BMC Bioinformatics, BMC Health Services, Computational Statistics and Data Analysis, Mathematics and Computers in Simulation, Biostatistics, Journal of Agricultural, Biological and Environmental Statistics, Sankhya, Statistica Sinica, IEEE Transactions on Signal Processing, Biometrical Journal, Statistical Methodology, Statistics and Decisions, Journal of Statistical Planning and Inference, Journal of Multivariate Analysis, PLoS One, Oncotarget

Book reviewer for Chapman & Hall/CRC.

OTHER PROFESSIONAL ACTIVITIES

1. Elected Representative of the Junior Faculty in the Council of the Faculty of Fundamental Problems of Technology, Wrocław University of Technology, 2004-2008.
2. Proxy for the President of the Wrocław University of Technology in the "GENOMIS" scientific network, 2008 -2009.
3. Reviewer for the Foundation for Polish Science, 2008.
4. Reviewer for the National Center of Science, 2012.
5. Expert of the National Center of Science, 2013–2015.

6. Polish representative in the Managing Committee of the COST action CRoNOS (Computationally-intensive methods for the Robust aNalysis Of non-Standard Data), 2015–2018.

TEACHING

Advising

Diploma works

2007 Katarzyna Olejnik, "Locating quantitative trait loci - interface for existing software".

2017 Stanisław Wilczyński, "Reduction of dimensionality by sparse subspace clustering"

2017 Zuzanna Kasprzak, "Canonical Correlation Analysis"

2017 Anna Kopszak, "Logistic regression with missing data"

2019 Aleksandra Steiner, " Logistic regression - asymptotic properties of the maximum likelihood estimators".

2019 Dominik Nowakowski, "Prediction properties of the regularization methods for high dimensional multiple regression"

Master Theses, MSc in Applied Mathematics

1999 Monika Horobiowska, "New data driven versions of the smooth test for bivariate normality".

1999 Adam Kaczmarz, "Data driven versions of the smooth tests for multivariate normality".

2004 Marek Szatkowski, "Statistical properties of interval mapping of quantitative trait loci".

2004 Konrad Karpowicz, "Bias of the estimates of QTL heritability".

2004 Łukasz Dobosz, "Rao score tests in application for testing goodness-of-fit".

2006 Aleksandra Ochman, "Statistical issues in multiple testing".

2006 Łukasz Wolski, “Bayesian methods of locating quantitative trait loci”.

2006 Małgorzata Biernat “Permutation tests and Bayesian Information Criterion in application for localizing QTL”.

2007 Magdalena Grynienko “Statistical methods for testing hypotheses of population genetics”.

2008 Paweł Pęcherzewski, “Identifying factors influencing binary traits”.

2008 Łukasz Wierzbicki, “Model selection in multivariate regression”.

2010 Agata Zawadzka, “Bayesian methods of localization of genes influencing discrete traits”.

2010 Małgorzata Wiśniewska, “Bayesian methods of localization of genes influencing binary traits”.

2010 Marta Mrozek, “Bayesian version of interval mapping”

2010 Piotr Szulc, “Statistical criteria for the choice of the model for substitutions in DNA sequences”.

2011 Roksana Kowalska, ”Cluster analysis and its application for the recognition of protein structures”.

2011 Adam Leśniewski, ”Regularization methods for the choice of explanatory variables in a sparse regression with application for genetic data”

2012 Daniel Lazar, ”Sparse canonical correlation analysis”.

2012 Rafał Baranowski, ”Sparse principal component analysis”’.

2014 Agnieszka Rackiewicz, ”Subspace clustering”

2015 Jan Idziak, ”Analysis of graphical models”

2015 Marta Karaś, ”Change point identification”

2015 Grzegorz Kotkowski, ”Random matrix theory in multivariate statistics”

2015 Estera Nocoń, ”‘Statistical methods for analysing and assessing reliability of open source software”

2016 Dorian Turkiewicz, "Rank version of SLOPE"

2019 Michał Makowski, "Precision matrix estimation in Gaussian graphical models"

2021 Aleksander Milach, "Optimal subset selection in the analysis of large data sets"

2021 Krystyna Grzesiak, "A novel semiparametric model for hydrogen-deuterium exchange monitored by mass spectrometry data"

PhD advising

Advisor for

1. Magdalena Malina, "Logic regression - theoretical properties and applications in statistical genetics", defended in September 2012.
2. Piotr Szulc, "Analysis of large dimensional data - theoretical properties and applications in genetics", defended in June 2017.
3. Damian Brzyski, "Selecting relevant groups of explanatory variables with the False Discovery Rate control" , defended in April 2016.
4. Piotr Sobczyk, "Identifying low-dimensional structures through model selection in high-dimensional data", defended in May 2019.
5. Michał Kos, "Identification of Statistically Important Predictors in High-Dimensional Data. Theoretical Properties and Practical Applications", defended in December 2019.
6. Mateusz Staniak, "Novel statistical methods for the analysis of proteomics mass-spectrometry data" - in progress.

Member of PhD Committee of Tilman Achberger, defended in March 2011, Purdue University.

Courses taught at Wrocław University of Technology, University of Wroclaw, Jan Długosz University, Purdue University, University of Washington and Vienna University:

1. Linear Algebra.
2. Mathematical Analysis.
3. Introduction to the Probability and Statistics.

4. Statistical Methods for Biology.
5. Nonparametric Statistics.
6. Estimation Theory.
7. Theory of Testing.
8. Statistical Packages.
9. Analysis of Time Series.
10. Stochastic Modeling.
11. Applied Regression Analysis.
12. Statistical Genetics.
13. Curve estimation.
14. Applied Statistics.
15. Statistical Data Analysis.
16. Theoretical Foundations of the Analysis of Large Data Sets.
17. Advanced Methods of Statistical Learning.

SPORT ACHIEVEMENTS

- Polish champion in Children's Swimming : 1976 (25m butterfly), 1977 (50m butterfly)
- Polish champion in Junior Rowing (quadruple scull): 1984, 1985
- Champion of the Polish Universities of Technology in Swimming: 1986, 1988, 1990
- Member of the Polish National Team of Lifeguards: 1987
- Polish Champion in Masters Swimming: 2011 (200 m butterfly and 200 m backstroke)

FAMILY

Husband: Krzysztof. Children: Michał (1991), Joanna (1992), Artur (1995).