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Bibliography

- Aalen, O. O. and Johansen, S. (1978), An empirical transition matrix for non-homogeneous Markov chains based on censored observations, *Scandinavian Journal of Statistics* **5**(3), 141–150.
- Abbe, E., Bandeira, A. S. and Hall, G. (2014), Exact recovery in the stochastic block model. arXiv:1405.3267v4.
- Airoldi, E. M., Blei, D. M., Fienberg, S. E. and Xing, E. P. (2008), Mixed membership stochastic blockmodels, *Journal of Machine Learning Research* **9**, 1981–2014.
- Akaike, H. (1973), Information theory and an extension of the maximum likelihood principle, in B. N. Petrov and F. Csaki, eds, ‘Second International Symposium on Information Theory’, Akademiai Kiado, Budapest, pp. 267–281.
- Andersen, P. K., Borgan, Ø., Gill, R. D. and Keiding, N. (1993), *Statistical models based on counting processes*, Springer.
- Andersen, P. K. and Pohar Perme, M. (2010), Pseudo-observations in survival analysis, *Statistical Methods in Medical Research* **19**(1), 71–99.
- Andrews, D. F. and Mallows, C. L. (1974), Scale mixtures of normal distributions, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* pp. 99–102.
- Andrews, M. and Baguley, T. (2012), Prior approval: the growth of Bayesian methods in psychology, *British Journal of Mathematical and Statistical Psychology* **66**(1), 1–7.
- Armagan, A., Dunson, D. B. and Lee, J. (2013), Generalized double Pareto shrinkage, *Statistica Sinica* **23**, 119–143.
- Armitage, P., McPherson, C. and Rowe, B. (1969), Repeated significance tests on accumulating data, *Journal of the Royal Statistical Society. Series A (General)* **132**(2), 235–244.
- ASA (2014), ASA physical status classification system, <https://www.asahq.org/resources/clinical-information/asa-physical-status-classification-system>. [Online; version October 15, 2014].
- Barndorff-Nielsen, O. (1978), *Information and exponential families in statistical theory*, Wiley.
- Barron, A., Birgé, L. and Massart, P. (1999), Risk bounds for model selection via penalization, *Probability Theorie and Related Fields* **113**(3), 301–413.
- Barron, A., Rissanen, J. and Yu, B. (1998), The minimum description length principle in coding and modeling, *IEEE Transactions on Information Theory* **44**(6), 2743–2760.
- Belitser, E. (2014), On coverage and local radial rates of DDM-credible sets. arXiv:1407.5232.

- Belitser, E. and Nurushev, N. (2015), Needles and straw in a haystack: empirical Bayes confidence for possibly sparse sequences. arXiv:511.01803.
- Bem, D. J. (2011), Feeling the future: Experimental evidence for anomalous retroactive influences on cognition and affect, *Journal of Personality and Social Psychology* **100**(3), 407–425.
- Berger, J. and Wolpert, R. (1988), *The likelihood principle. Second edition*, Institute of Mathematical Statistics, Hayward, CA.
- Beyersmann, J., Allignol, A. and Schumacher, M. (2012), *Competing risks and multistate models with R*, Springer.
- Beyersmann, J. and Scheike, T. H. (2013), Classical regression models for competing risks, in J. P. Klein, H. C. van Houwelingen, J. G. Ibrahim and T. H. Scheike, eds, 'Handbook of survival analysis', Chapman and Hall/CRC, pp. 157–177.
- Beyersmann, J. and Schumacher, M. (2007), Letter to the Editor: Misspecified regression model for the subdistribution hazard of a competing risk, *Statistics in Medicine* **26**(7), 1649–1651.
- Bhadra, A., Datta, J., Polson, N. G. and Willard, B. (2015), The horseshoe+ estimator of ultra-sparse signals. arXiv:1502.00560v2.
- Bhattacharya, A., Pati, D., Pillai, N. S. and Dunson, D. B. (2012), Bayesian shrinkage. arXiv:1212.6088.
- Bhattacharya, A., Pati, D., Pillai, N. S. and Dunson, D. B. (2014), Dirichlet-Laplace priors for optimal shrinkage. arXiv:1401.5398.
- Bickel, P. J. and Chen, A. (2009), A nonparametric view of network models and Newman-Girvan and other modularities, *Proceedings of the National Academy of Sciences of the United States of America* **106**(50), 21068–21073.
- Bickel, P. J., Chen, A., Zhao, Y., Levina, E. and Zhu, J. (2015), Correction to the proof of consistency of community detection, *The Annals of Statistics* **43**(1), 462–466.
- Bickel, P. J., Ritov, Y. and Tsybakov, A. B. (2009), Simultaneous analysis of Lasso and Dantzig selector, *The Annals of Statistics* **37**(4), 1705–1732.
- Bogdan, M., Ghosh, J. K. and Tokdar, S. T. (2008), A comparison of the Benjamini-Hochberg procedure with some Bayesian rules for multiple testing, in 'Beyond parametrics in interdisciplinary research: Festschrift in honor of professor Pranab K. Sen', The Institute of Mathematical Statistics.
- Box, G. E. and Draper, N. R. (1987), *Empirical model-building and response surfaces*, Wiley.
- Bryant, D., Havey, T. C., Roberts, R. and Guyatt, G. (2006), How many patients? How many limbs? Analysis of patients or limbs in the orthopaedic literature: a systematic review, *The Journal of Bone & Joint Surgery* **88-A**(1), 41–45.
- Buchholz, H., Heinert, K. and Wargenau, M. (1985), Verlaufsbeobachtung von Hüftendoprothesen nach Abschluß realer Belastungsbedingungen von 10 Jahren, *Zeitschrift für Orthopädie* **123**, 815–820.
- Bühlmann, P. and van de Geer, S. (2011), *Statistics for high-dimensional data*, Springer-Verlag Berlin Heidelberg.
- Bull, A. (2012), Honest adaptive confidence bands and self-similar functions, *Electronic Journal of Statistics* **6**, 1490–1516.
- Burnham, K. and Anderson, D. (2004), Multimodel inference: Understanding AIC and BIC in model selection, *Sociological Methods & Research* **33**, 261–304.

- Caron, F. and Doucet, A. (2008), Sparse Bayesian nonparametric regression, in 'Proceedings of the 25th International Conference on Machine Learning', ICML '08, ACM, New York, NY, USA, pp. 88–95.
- Carvalho, C. M., Polson, N. G. and Scott, J. G. (2009), Handling sparsity via the horseshoe, *Journal of Machine Learning Research, W&CP* **5**, 73–80.
- Carvalho, C. M., Polson, N. G. and Scott, J. G. (2010), The horseshoe estimator for sparse signals, *Biometrika* **97**(2), 465–480.
- Castillo, I. and Nickl, R. (2014), On the Bernstein von Mises phenomenon for nonparametric Bayes procedures, *Annals of Statistics* **42**(5), 1941–1969.
- Castillo, I., Schmidt-Hieber, J. and van der Vaart, A. (2015), Bayesian linear regression with sparse priors, *The Annals of Statistics* **43**(5), 1986–2018.
- Castillo, I. and van der Vaart, A. W. (2012), Needles and straw in a haystack: Posterior concentration for possibly sparse sequences, *The Annals of Statistics* **40**(4), 2069–2101.
- Cavanaugh, J. E. (2012), [Catching up faster by switching sooner] : Discussion, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **74**(3), 402–403.
- Channarond, A., Daudin, J.-J. and Robin, S. (2012), Classification and estimation in the stochastic blockmodel based on the empirical degrees, *Electronic Journal of Statistics* **6**, 2574–2601.
- Chen, K. and Lei, J. (2014), Network cross-validation for determining the number of communities in network data. arXiv:1411.1715v1.
- Chen, Y. and Xu, J. (2014), Statistical-computational tradeoffs in planted problems and submatrix localization with a growing number of clusters and submatrices. arXiv:1402.1267v2.
- Cheng, S., Fine, J. P. and Wei, L. (1998), Prediction of cumulative incidence function under the proportional hazards model, *Biometrics* **54**(1), 219–228.
- Chernoff, H. (1952), A measure of asymptotic efficiency for tests of a hypothesis based on the sum of observations, *The Annals of Mathematical Statistics* **23**(4), 493–507.
- Clements, N., Sarkar, S. K. and Guo, W. (2012), Astronomical transient detection controlling the false discovery rate, in E. D. Feigelson and J. Babu, eds, 'Statistical challenges in modern astronomy V', Springer, pp. 383–396.
- Côme, E. and Latouche, P. (2014), Model selection and clustering in stochastic block models with the exact integrated complete data likelihood. arXiv:1303.2962.
- Cortese, G. and Andersen, P. K. (2009), Competing risks and time-dependent covariates, *Biometrical Journal* **51**, 138–158.
- Csardi, G. and Nepusz, T. (2006), The igraph software package for complex network research, *InterJournal Complex Systems* **1695**.
- Csiszár, I. (1984), Sanov property, generalized I -projection and a conditional limit theorem, *The Annals of Probability* **12**(3), 768–793.
- Damien, P., Wakefield, J. and Walker, S. (1999), Gibbs sampling for Bayesian non-conjugate and hierarchical models by using auxiliary variables, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **61**(2), 331–344.
- Datta, J. and Ghosh, J. K. (2013), Asymptotic properties of Bayes risk for the horseshoe prior, *Bayesian Analysis* **8**(1), 111–132.
- Davison, A. and Hinkley, D. (1997), *Bootstrap methods and their application*, Cambridge University Press.

- Dawid, A. (1984), Present position and potential developments: Some personal views, statistical theory, the prequential approach, *Journal of the Royal Statistical Society. Series A (General)* **147**(2), 278–292.
- Dienes, Z. (2011), Bayesian versus orthodox statistics: Which side are you on?, *Perspectives on Psychological Science* **6**(3), 274–290.
- Donoho, D. L., Johnstone, I. M., Hoch, J. C. and Stern, A. S. (1992), Maximum entropy and the nearly black object (with discussion), *Journal of the Royal Statistical Society. Series B (Methodological)* **54**(1), 41–81.
- Edwards, W., Lindman, H. and Savage, L. J. (1963), Bayesian statistical inference for psychological research, *Psychological Review* **70**(3), 193–242.
- Efron, B. (1986), How biased is the apparent error rate of a prediction rule?, *Journal of the American Statistical Association* **88**(394), 461–470.
- Efron, B. (2008), Microarrays, empirical Bayes and the two-groups model, *Statistical Science* **23**(1), 1–22.
- van Erven, T., Grünwald, P. D. and De Rooij, S. (2012), Catching up faster by switching sooner: a predictive approach to adaptive estimation with an application to the AIC-BIC dilemma (with discussion), *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **74**(3), 361–417.
- van Erven, T., Grünwald, P. and de Rooij, S. (2007), Catching up faster in Bayesian model selection and model averaging, in ‘Advances in Neural Information Processing Systems’, Vol. 20.
- van Erven, T. and Harremoës, P. (2014), Rényi divergence and Kullback-Leibler divergence, *IEEE Transactions on Information Theory* **60**(7), 3797–3820.
- Fine, J. P. and Gray, R. J. (1999), A proportional hazards model for the subdistribution of a competing risk, *Journal of the American Statistical Association* **94**(446), 496–509.
- Forster, M. (2000), Key concepts in model selection: Performance and generalizability, *Journal of Mathematical Psychology* **44**, 205–231.
- Gail, M. H. (1972), Does cardiac transplantation prolong life? A reassessment, *Annals of Internal Medicine* **76**(5), 815–817.
- Gallo, J., Havranek, V., Zapletalova, J. and Lostak, J. (2010), Male gender, Charnley class C, and severity of bone defects predict the risk for aseptic loosening in the cup of ABG I hip arthroplasty, *BMC Musculoskeletal Disorders* **11**(1), 1–7.
- Gao, C., Ma, Z., Zhang, A. Y. and Zhou, H. H. (2015), Achieving optimal misclassification proportion in stochastic block model. arXiv:1505.03772v5.
- Gao, C., Ma, Z., Zhang, A. Y. and Zhou, H. H. (2016), Community detection in degree-corrected block models. arXiv:1607.06993.
- van de Geer, S., Bühlmann, P., Ritov, Y. and Dezeure, R. (2014), On asymptotically optimal confidence regions and tests for high-dimensional models, *The Annals of Statistics* **42**(3), 1166–1202.
- van de Geer, S., Bühlmann, P. and Zhou, S. (2011), The adaptive and the thresholded Lasso for potentially misspecified models (and a lower bound for the Lasso), *Electronic Journal of Statistics* **5**, 688–749.
- Ghosal, S., Ghosh, J. K. and van der Vaart, A. W. (2000), Convergence rates of posterior distributions, *The Annals of Statistics* **28**(2), 500–531.

- Ghosal, S., Lember, J. and van der Vaart, A. (2008), Nonparametric Bayesian model selection and averaging, *Electronic Journal of Statistics* **2**, 63–89.
- Ghosh, P. and Chakrabarti, A. (2015), Posterior concentration properties of a general class of shrinkage estimators around nearly black vectors. arXiv:1412.8161v2.
- Gillam, M. H., Lie, S. A., Salter, A., Furnes, O., Graves, S. E., Havelin, L. I. and Ryan, P. (2013), The progression of end-stage osteoarthritis: analysis of data from the Australian and Norwegian joint replacement registries using a multi-state model, *Osteoarthritis and Cartilage* **21**(3), 405–412.
- Gillam, M. H., Ryan, P., Graves, S. E., Miller, L. N., de Steiger, R. N. and Salter, A. (2010), Competing risks survival analysis applied to data from the Australian Orthopaedic Association National Joint Replacement Registry, *Acta Orthopaedica* **81**(5), 548–555.
- Gillam, M. H., Ryan, P., Salter, A. and Graves, S. E. (2012), Multi-state models and arthroplasty histories after unilateral total hip arthroplasties: Introducing the summary notation for arthroplasty histories, *Acta Orthopaedica* **83**(3), 220–226.
- Giné, E. and Nickl, R. (2010), Confidence bands in density estimation, *The Annals of Statistics* **38**(2), 1122–1170.
- Glover, F. (1989), Tabu search - part I, *ORSA Journal on Computing* **1**(3), 190–206.
- Gradshteyn, I. S. and Ryzhik, I. M. (1965), *Table of integrals, series and products*, Academic Press.
- Gramacy, R. B. (2014), *monomvn: Estimation for multivariate normal and Student-t data with monotone missingness*. R package version 1.9-5.
- Grambauer, N., Schumacher, M. and Beyersmann, J. (2010), Proportional subdistribution hazards modeling offers a summary analysis, even if misspecified, *Statistics in Medicine* **29**, 875–884.
- Graves, S. (2010), The value of arthroplasty registry data, *Acta Orthopaedica* **81**, 8–9.
- Gray, R. J. (1988), A class of k -sample tests for comparing the cumulative incidence of a competing risk, *The Annals of Statistics* **16**(3), 1141–1154.
- Griffin, J. E. and Brown, P. J. (2005), Alternative prior distributions for variable selection with very many more variables than observations, *Technical Report, University of Warwick*.
- Griffin, J. E. and Brown, P. J. (2010), Inference with normal-gamma prior distributions in regression problems, *Bayesian Analysis* **5**(1), 171–188.
- Grünwald, P. D. (2007), *The minimum description length principle*, The MIT Press.
- Grünwald, P. D. and de Rooij, S. (2005), Asymptotic log-loss of prequential maximum likelihood codes, in 'Proceedings of the Eighteenth Annual Conference on Computational Learning Theory (COLT 2005)', pp. 652–667.
- Gusella, J. F., Wexler, N. S., Conneally, P. M., Naylor, S. L., Anderson, M. A., Tanzi, R. E., Watkins, P. C., Ottina, K., Wallace, M. R., Sakaguchi, A. Y., Young, A. B., Shoulson, I., Bonilla, E. and Martin, J. B. (1983), A polymorphic DNA marker genetically linked to Huntington's disease, *Nature* **308**, 234–238.
- Hannan, E. J. and Quinn, B. G. (1979), The determination of the order of an autoregression, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **41**(2), 190–195.
- Havelin, L. I., Espehaug, B., Vollset, S. E. and Engesaeter, L. B. (1995), The effect of the type of cement on early revision of Charnley total hip prostheses, *The Journal of Bone & Joint Surgery* **77-A**(10), 1543–1550.

- Hayashi, K., Konishi, T. and Kawamoto, T. (2016), A tractable fully Bayesian method for the stochastic block model. arXiv:1602.02256v1.
- Hoffman, E. B., Sen, P. K. and Weinberg, C. R. (2001), Within-cluster resampling, *Biometrika* **88**(4), 1121–1134.
- Hoffmann, M., Rousseau, J. and Schmidt-Hieber, J. (2015), On adaptive posterior concentration rates, *Ann. Statist.* **43**(5), 2259–2295.
- Hofman, J. M. and Wiggins, C. H. (2008), Bayesian approach to network modularity, *Physical Review Letters* **100**, 258701.
- Holland, P. W., Laskey, K. B. and Leinhardt, S. (1983), Stochastic blockmodels: First steps, *Social Networks* **5**, 109–137.
- Holt, J. (1978), Competing risks analyses with special reference to matched pair experiments, *Biometrika* **65**(1), 159–165.
- Hooper, G. J., Rothwell, A. G., Hooper, N. M. and Frampton, C. (2012), The relationship between the American Society of Anesthesiologists physical rating and outcome following total hip and knee arthroplasty, *The Journal of Bone & Joint Surgery* **94**(12), 1065–1070.
- van Houwelingen, H. C. (2007), Dynamic prediction by landmarking in event history analysis, *Scandinavian Journal of Statistics* **34**, 70–85.
- Jiang, W. and Zhang, C.-H. (2009), General maximum likelihood empirical Bayes estimation of normal means, *The Annals of Statistics* **37**(4), 1647–1684.
- Jin, J. (2015), Fast community detection by SCORE, *The Annals of Statistics* **43**(1), 57–89.
- John, L. K., Loewenstein, G. and Prelec, D. (2012), Measuring the prevalence of questionable research practices with incentives for truth telling, *Psychological Science* **23**(5), 524–532.
- Johnsen, S., Sørensen, H., Lucht, U., Søballe, K., Overgaard, S. and Pedersen, A. (2006), Patient-related predictors of implant failure after primary total hip replacement in the initial, short- and long-terms. a nationwide Danish follow-up study including 36 984 patients, *Bone and Joint Journal* **88-B**(10), 1303–1308.
- Johnson, V. E. and Rossell, D. (2010), On the use of non-local prior densities in Bayesian hypothesis tests, *Journal of the Royal Statistical Society. Series B (Methodological)* **72**(2), 143–170.
- Johnstone, I. M. and Silverman, B. W. (2004), Needles and straw in haystacks: Empirical Bayes estimates of possibly sparse sequences, *The Annals of Statistics* **32**(4), 1594–1649.
- Kalbfleisch, J. D. and Prentice, R. L. (2002), *The statistical analysis of failure time data. Second edition*, Wiley.
- Karrer, B. and Newman, M. E. J. (2011), Stochastic blockmodels and community structure in networks, *Physical Review E* **83**, 016107.
- Kass, R. and Raftery, A. E. (1995), Bayes factors, *Journal of the American Statistical Association* **90**(430), 773–795.
- Keurentjes, J., Fiocco, M., Schreurs, B., Pijls, B., Nouta, K. and Nelissen, R. (2012), Revision surgery is overestimated in hip replacement., *Bone & Joint Research* **26**, 2389–2430.
- Klein, J. P. and Moeschberger, M. L. (2003), *Survival Analysis. Techniques for censored and truncated data. Second edition*, Springer.
- Koenker, R. (2014), A Gaussian compound decision bakeoff, *Stat* **3**(1), 12–16.

- Koenker, R. and Mizera, I. (2014), Convex optimization, shape constraints, compound decisions and empirical Bayes rules, *Journal of the American Statistical Association* **109**(506), 674–685.
- Latouche, A., Allignol, A., Beyersmann, J., Labopin, M. and Fine, J. P. (2013), A competing risks analysis should report results on all cause-specific hazards and cumulative incidence functions, *Journal of Clinical Epidemiology* **66**(6), 648 – 653.
- Latouche, A., Boisson, V., Chevret, S. and Porcher, R. (2007), Misspecified regression model for the subdistribution hazard of a competing risk, *Statistics in Medicine* **26**(5), 965–974.
- Lauritzen, S. (2012), [Catching up faster by switching sooner] : Discussion, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **74**(3), 401–402.
- Leeb, H. and Pötscher, B. M. (2005), Model selection and inference: Facts and fiction, *Econometric Theory* **21**(1), 21–59.
- Lei, J. and Rinaldo, A. (2015), Consistency of spectral clustering in stochastic block models, *The Annals of Statistics* **43**(1), 215–237.
- Lévesque, L., Hanley, J., Kezouh, A. and Suissa, S. (2010), Problem of immortal time bias in cohort studies: example using statins for preventing progression of diabetes, *The BMJ* **340**, b5087.
- Lewis, A. S. and Knowles, G. (1992), Image compression using the 2-d wavelet transform, *IEEE Transactions on Image Processing* **1**(2), 244–250.
- Lhéritier, A. and Cazals, F. (2015), A sequential nonparametric two-sample test, Technical Report Research Report 8704, INRIA, Sophia Antipolis.
- Li, J., Scheike, T. H. and Zhang, M.-J. (2015), Checking Fine and Gray subdistribution hazards model with cumulative sums of residuals, *Lifetime Data Analysis* **21**(2), 197–217.
- Li, K.-C. (1989), Honest confidence regions for nonparametric regression, *The Annals of Statistics* **17**(3), 1001–1008.
- Lie, S. A., Engesaeter, L. B., Havelin, L. I., Gjessing, H. K. and Vollset, S. E. (2004), Dependency issues in survival analyses of 55782 primary hip replacements from 47355 patients, *Statistics in Medicine* **23**, 3227–3240.
- Lin, D. (1997), Non-parametric inference for cumulative incidence functions in competing risks studies, *Statistics in Medicine* **16**, 901–910.
- Lin, D. Y., Wei, L. J. and Ying, Z. (1993), Checking the Cox model with cumulative sums of martingale-based residuals, *Biometrika* **80**(3), 557–572.
- Liu, H. and Yu, B. (2013), Asymptotic properties of Lasso+mLS and Lasso+Ridge in sparse high-dimensional linear regression, *Electronic Journal of Statistics* **7**, 3124–3169.
- LROI (2014), Arthroplasty in the picture. Annual report 2014.
- Mahomed, N., Barrett, J., Katz, J., Phillips, C., Losina, E., Lew, R., Guadagnoli, E., Harris, W., Poss, R. and Baron, J. (2003), Rates and outcomes of primary and revision total hip replacement in the United States Medicare population, *The Journal of Bone & Joint Surgery* **85**, 27–32.
- Makalic, E. and Schmidt, D. F. (2015), A simple sampler for the horseshoe estimator. arXiv:1508.03884.
- Makela, K., Matilainen, M., Pulkkinen, P., Fenstad, A., Havelin, L., Engesaeter, L., Furnes, O., Pedersen, A., Overgaard, S., Kärrholm, J., Malchau, H., Garellick, G., Ranstam, J. and Eskelinen, A. (2014), Failure rate of cemented and uncemented total hip replacements: register study of combined Nordic database of four nations, *The BMJ* **348**, f7592.

- Mallory, T. H., Lombardi, A., Fada, R., Herrington, S. and Eberle, R. (1999), Dislocation after total hip arthroplasty using the anterolateral abductor split approach, *Clinical Orthopaedics and Related Research* **358**, 166–172.
- Martin, R. and Walker, S. G. (2014), Asymptotically minimax empirical Bayes estimation of a sparse normal mean vector, *Electronic Journal of Statistics* **8**(2), 2188–2206.
- Maurer, T., Ochsner, P., Schwarzer, G. and Schumacher, M. (2001), Increased loosening of cemented straight stem prostheses made from titanium alloys. an analysis and comparison with prostheses made of cobalt-chromium-nickel alloy, *International Orthopaedics* **25**, 77–80.
- McDaid, A. F., Brendan Murphy, T., Friel, N. and Hurley, N. J. (2013), Improved Bayesian inference for the stochastic block model with application to large networks, *Computational Statistics and Data Analysis* **60**, 12–31.
- McKeague, I. W., Gilbert, P. B. and Kanki, P. J. (2001), Omnibus tests for comparison of competing risks with adjustment for covariate effects, *Biometrics* **57**(3), 818–828.
- Miller, P. D. (2006), *Applied asymptotic analysis*, Vol. 75 of *Graduate Studies in Mathematics*, The American Mathematical Society.
- Mitchell, T. J. and Beauchamp, J. J. (1988), Bayesian variable selection in linear regression, *Journal of the American Statistical Association* **83**(404), 1023–1032.
- Möllenhoff, G., Walz, M., Muhr, G. and Rehn, J. (1994), Doppelseitige Hüftgelenken endoprothesen: das Zeitintervall als prognostischer Parameter, *Unfallchirurg* **97**, 430–434.
- Morris, R. W. (1993), Bilateral procedures in randomised controlled trials, *The Journal of Bone & Joint Surgery* **75-B**, 675–676.
- Mossel, E., Neeman, J. and Sly, A. (2012), Reconstruction and estimation in the planted partition model. arXiv:11202.1499v4.
- Newman, M. and Girvan, M. (2004), Finding and evaluating community structure in networks, *Physical Review E* **69**, 026113.
- Nickl, R. and van de Geer, S. (2013), Confidence sets in sparse regression, *The Annals of Statistics* **41**(6), 2852–2876.
- Nickl, R. and Szabó, B. (2014), A sharp adaptive confidence ball for self-similar functions. To appear in *Stochastics Processes and their Applications*.
- NJR (2015), National Joint Registry for England, Wales, Northern Ireland and the Isle of Man. 12th annual report 2015.
- Nowicki, K. and Snijders, T. A. B. (2001), Estimation and prediction for stochastic block-structures, *Journal of the American Statistical Association* **96**(455), 1077–1087.
- Ong, K., Mowat, F., Chan, N., Lau, E., Halpern, M. and Kurtz, S. (2006), Economic burden of revision hip and knee arthroplasty in Medicare enrollees, *Clinical Orthopaedics and Related Research* **446**, 22–28.
- Pabinger, C. and Geissler, A. (2014), Utilization rates of hip arthroplasty in OECD countries, *Osteoarthritis and Cartilage* **22**, 734–741.
- Pabinger, C., Lothaller, H. and Geissler, A. (2015), Utilization rates of knee-arthroplasty in OECD countries, *Osteoarthritis and Cartilage* **23**, 1664–1673.
- Park, T. and Casella, G. (2008), The Bayesian lasso, *Journal of the American Statistical Association* **103**(482), 681–686.
- Park, Y. and Bader, J. S. (2012), How networks change with time, *Bioinformatics* **28**(12), i40–i48.

- van der Pas, S., Kleijn, B. and van der Vaart, A. (2014), The horseshoe estimator: Posterior concentration around nearly black vectors, *Electronic Journal of Statistics*, **8**, 2585–2618.
- van der Pas, S. L. (2013), Almost the best of three worlds. The switch model selection criterion for single-parameter exponential families, Master's thesis, Leiden University.
- Pati, D. and Bhattacharya, A. (2015), Optimal Bayesian estimation in stochastic block models. arXiv:1505.06794.
- Pericchi, L. R. and Smith, A. F. M. (1992), Exact and approximate posterior moments for a normal location parameter, *Journal of the Royal Statistical Society. Series B (Methodological)* **54**(3), 793–804.
- Picard, D. and Tribouley, K. (2000), Adaptive confidence interval for pointwise curve estimation, *The Annals of Statistics* **28**(1), 298–335.
- Polson, N. G. and Scott, J. G. (2010), Shrink globally, act locally: Sparse Bayesian regularization and prediction, in J. Bernardo, M. Bayarri, J. Berger, A. Dawid, D. Heckerman, A. Smith and M. West, eds, 'Bayesian Statistics 9', Oxford University Press.
- Polson, N. G. and Scott, J. G. (2012a), Good, great or lucky? Screening for firms with sustained superior performance using heavy-tailed priors, *The Annals of Applied Statistics* **6**(1), 161–185.
- Polson, N. G. and Scott, J. G. (2012b), On the half-Cauchy prior for a global scale parameter, *Bayesian Analysis* **7**(4), 887–902.
- Pratt, J. W. (1962), On the foundations of statistical inference: Discussion, *Journal of the American Statistical Association* pp. 307–326. Discussion.
- Prokopetz, J., Losina, E., Bliss, R., Wright, J., Baron, J. and Katz, J. (2012), Risk factors for revision of primary total hip arthroplasty: a systematic review, *BMC Musculoskeletal Disorders* **13**, 251.
- Putter, H., Fiocco, M. and Geskus, R. (2007), Tutorial in biostatistics: competing risks and multi-state models, *Statistics in Medicine* **26**, 2389–2430.
- Ramdas, A. and Balsubramani, A. (2015), Sequential nonparametric testign with the law of the iterated logarithm. arXiv:1506.03488.
- Ranstam, J., Kärrholm, J., Pulkkinen, P., Keijo, M., Espehaug, B., Pedersen, A. B., Mehnert, F. and Furnes, O. (2011), Statistical analysis of arthroplasty data. II. Guidelines, *Acta Orthopaedica* **82**(3), 258–267.
- Ray, K. (2014), Adaptive Bernstein-von Mises theorems in Gaussian white noise, *ArXiv e-prints*.
- Ripatti, S. and Palmgren, J. (2000), Estimation of multivariate frailty models using penalized partial likelihood, *Biometrics* **56**(4), 1016–1022.
- Robbins, H. (1955), A remark on Stirling's formula, *The American Mathematical Monthly* **62**(1), 26–29.
- Robbins, H. (1956), An empirical Bayes approach to statistics, in 'Proceedings of the Third Berkeley Symposium on Mathematical Statistics and Probability, volume 1: Contributions to the theory of statistics', University of California Press, Berkeley, California, pp. 157–163.
- Robertsson, O. and Ranstam, J. (2003), No bias of ignored bilaterality when analysing the revision risk of knee prostheses: Analysis of a population based sample of 44590 patients with 55298 knee prostheses from the national Swedish Knee Arthroplasty Register, *BMC Musculoskeletal Disorders* **4**(1).

- Robins, J. and van der Vaart, A. (2006), Adaptive nonparametric confidence sets, *The Annals of Statistics* **34**(1), 229–253.
- Rohe, K., Chatterjee, S. and Yu, B. (2011), Spectral clustering and the high-dimensional stochastic blockmodel, *The Annals of Statistics* **39**(4), 1878–1915.
- Ročková, V. (2015), Bayesian estimation of sparse signals with a continuous spike-and-slab prior. Submitted manuscript, available at <http://stat.wharton.upenn.edu/~vrockova/rockova2015.pdf>.
- Saldana, D. F., Yu, Y. and Feng, Y. (2014), How many communities are there? arXiv:1412.1684v1.
- Sanborn, A. N. and Hills, T. T. (2014), The frequentist implications of optional stopping on Bayesian hypothesis tests, *Psychonomic bulletin & review* **21**(2), 283–300.
- Sarkar, P. and Bickel, P. J. (2015), Role of normalization in spectral clustering for stochastic blockmodels, *The Annals of Statistics* **43**(3), 962–990.
- Schwarz, G. (1978), Estimating the dimension of a model, *The Annals of Statistics* **6**(2), 461–464.
- Schwarzer, G., Schumacher, M., Maurer, T. B. and Ochsner, P. E. (2001), Statistical analysis of failure times in total joint replacement, *Journal of Clinical Epidemiology* **54**, 997–1003.
- Scott, J. G. (2010), Parameter expansion in local-shrinkage models. arXiv:1010.5265.
- Scott, J. G. (2011), Bayesian estimation of intensity surfaces on the sphere via needlet shrinkage and selection, *Bayesian Analysis* **6**(2), 307–328.
- Scott, J. G. and Berger, J. O. (2010), Bayes and empirical-Bayes multiplicity adjustment in the variable-selection problem, *The Annals of Statistics* **38**(5), 2587–2619.
- Serra, P. and Krivobokova, T. (2014), Adaptive empirical Bayesian smoothing splines. arXiv:1411.6860.
- Shafer, G., Shen, A., Vereshchagin, N. and Vovk, V. (2011), Test martingales, Bayes factors and p -values, *Statistical Science* **26**(1), 84–101.
- Shafer, R. E. (1966), Elementary problems. Problem E 1867, *The American Mathematical Monthly* **73**(3), 309.
- Shao, J. (1997), An asymptotic theory for linear model selection, *Statistica Sinica* **7**, 221–264.
- SHAR (2014), The Swedish Hip Arthroplasty Register. Annual report 2014.
- Silver, M., Janousova, E., Hua, X., Thompson, P. M. and Montana, G. (2012), Identification of gene pathways implicated in Alzheimer’s disease using longitudinal imaging phenotypes with sparse regression, *NeuroImage* **63**(3), 1681 – 1694.
- Sniekers, S. and van der Vaart, A. (2015a), Adaptive Bayesian credible sets in regression with a Gaussian process prior, *Electronic Journal of Statistics* **9**(2), 2475–2527.
- Sniekers, S. and van der Vaart, A. (2015b), Adaptive credible bands in nonparametric regression with Brownian motion prior. arXiv:1504.07972.
- Sniekers, S. and van der Vaart, A. (2015c), Credible sets in the fixed design model with Brownian motion prior, *Journal of Statistical Planning and Inference* **166**, 78–86.
- Snijders, T. A. and Nowicki, K. (1997), Estimation and prediction for stochastic blockmodels for graphs with latent block structure, *Journal of Classification* **14**, 75–100.
- Stone, M. (1977), An asymptotic equivalence of choice of model by cross-validation and Akaike’s criterion, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **39**(1), 44–47.

- Suissa, S. (2007), Immortal time bias in observational studies of drug effects, *Pharmacoepidemiology and Drug Safety* **16**(3), 241–249.
- Suwan, S., Lee, D. S., Tang, R., Sussman, D. L., Tang, M. and Priebe, C. E. (2016), Empirical Bayes estimation for the stochastic blockmodel, *Electronic Journal of Statistics* **10**, 761–782.
- Sylvestre, M., Huszti, E. and Hanley, J. (2006), Do Oscar winners live longer than less successful peers? A reanalysis of the evidence., *Annals of Internal Medicine* **145**(5), 361–363.
- Szabó, B., van der Vaart, A. W. and van Zanten, J. H. (2015a), Frequentist coverage of adaptive nonparametric Bayesian credible sets, *Ann. Statist.* **43**(4), 1391–1428.
- Szabó, B., van der Vaart, A. and van Zanten, H. (2015b), Honest Bayesian confidence sets for the L2-norm, *Journal of Statistical Planning and Inference* **166**, 36 – 51. Special Issue on Bayesian Nonparametrics.
- Tibshirani, R. (1996), Regression shrinkage and selection via the lasso, *Journal of the Royal Statistical Society. Series B (Methodological)* **58**(1), 267–288.
- Tsui, L.-C., Buchwald, M., Barker, D., Braman, J. C., Knowlton, R., Schumm, J. W., Eiberg, Hans en Mohr, J., Kennedy, D., Plavsic, N., Zsiga, M., Markiewicz, D., Akots, G., Brown, V., Helms, C., Gravius, T., Parker, C., Rediker, K. and Donis-Keller, H. (1985), Cystic fibrosis locus defined by a genetically linked polymorphic DNA marker, *Science* **230**, 1054–1057.
- van der Vaart, A. W. and Wellner, J. A. (1996), *Weak convergence and empirical processes*, Springer Series in Statistics, Springer-Verlag, New York. With applications to statistics.
- van der Vaart, A. and van Zanten, H. (2009), Adaptive Bayesian estimation using a Gaussian random field with inverse gamma bandwidth, *The Annals of Statistics* **37**(5B), 2655–2675.
- van der Pas, S., Scott, J., Chakraborty, A. and Bhattacharya, A. (2016), *horseshoe: Implementation of the Horseshoe Prior*. R package version 0.1.0.
- van der Vaart, A. W. (1998), *Asymptotic statistics*, Cambridge University Press.
- Visuri, T., Turula, K. B., Pulkkinen, P. and Nevalainen, J. (2002), Survivorship of hip prosthesis in primary arthrosis. Influence of bilaterality and interoperative time in 45000 hip prostheses from the Finnish Endoprosthesis Register, *Acta Orthopaedica Scandinavica* **73**(3), 287–290.
- Wagenmakers, E.-J. (2007), A practical solution to the pervasive problems of p -values, *Psychonomic Bulletin & Review* **14**(5), 779–804.
- Wang, Y. X. R. and Bickel, P. J. (2015), Likelihood-based model selection for stochastic block models. arXiv:1502.02069v1.
- Wienke, A. (2003), Frailty models, Technical Report WP-2003-032, Max Planck Institute for Demographic Research.
- Wilcock, G. (1978), Benefits of total hip replacement to older patients and the community, *British Medical Journal* **2**, 37–39.
- Yang, Y. (2005), Can the strengths of AIC and BIC be shared? A conflict between model identification and regression estimation, *Biometrika* **92**(2), 937–950.
- Yang, Y., Wainwright, M. J. and Jordan, M. I. (2015), On the computational complexity of high-dimensional Bayesian variable selection. arXiv:1505.07925.

- Yuan, M. and Lin, Y. (2005), Efficient empirical Bayes variable selection and estimation in linear models, *Journal of the American Statistical Association* **100**(472), 1215–1225.
- Zachary, W. W. (1977), An information flow model for conflict and fission in small groups, *Journal of Anthropological Research* **33**(4), 452–473.
- Zhang, A. Y. and Zhou, H. H. (2015), Minimax rates of community detection in stochastic block models. Preprint available at <http://www.stat.yale.edu/~hz68/CommunityDetection.pdf>.
- Zhang, C.-H. and Zhang, S. S. (2014), Confidence intervals for low dimensional parameters in high dimensional linear models, *Journal of the Royal Statistical Society. Series B (Statistical Methodology)* **76**(1), 217–242.
- Zhao, Y., Levina, E. and Zhu, J. (2012), Consistency of community detection in networks under degree-corrected stochastic block models, *The Annals of Statistics* **40**(4), 2266–2292.
- Zhou, B., Fine, J., Latouche, A. and Labopin, M. (2012), Competing risks regression for clustered data, *Biostatistics* **13**(3), 371–383.