

Curriculum Vitae, Bernhard Schölkopf

June 2019

Personal

Born February 20, 1968, Stuttgart, Germany;

married to the Spanish illustrator Ana Martín Larrañaga, three children

Employment

since 2011 Director at the Max Planck Institute for Intelligent Systems

since 2017 Amazon Distinguished Scholar (part-time)

since 2019 Affiliated Professor, ETH Zürich

2001 – 2010 Director at the Max Planck Institute for Biological Cybernetics

2000 – 2001 Group leader at the biotech startup Biowulf Technologies, New York

1999 – 2000 Researcher at Microsoft Research Ltd., Cambridge

1997 – 1999 Researcher at GMD (German National Research Center for Computer Science), Berlin

Education

1997 PhD in Computer Science (TU Berlin) — *summa cum laude*

1994 Diplom in Physics, University of Tübingen (Germany) — *Grade: 1*

1992 M. Sc. in Mathematics, University of London — *with distinction*

1988 – 1994 Studies of Physics, Mathematics and Philosophy in Tübingen and London

Academic Service

Journal of Machine Learning Research — *co-founding action editor, later member of the advisory board, now co-editor-in-chief; this has become the flagship journal of machine learning*

Journal of Artificial Intelligence Research (2003 – 2006)

IEEE Transactions on Pattern Analysis and Machine Intelligence (2005 – 2009), International Journal of Computer Vision (2004 – 2010) — *the two flagship journals of computer vision*

Information Science and Statistics — *a monograph series published by Springer*

Machine Learning Journal (until 2002)

Foundations and Trends in Machine Learning

SIAM Journal on Imaging Sciences (2007 – 2012)

ACM Books

Co-chair of the first two kernel workshops in Breckenridge, Colorado (1998, 1999)

Co-founder of an ongoing series of summer schools on Machine Learning (www.mlss.cc)

Program (co-)chair of COLT'03, DAGM'04, NIPS'05; general chair of NIPS'06

PC member of most major machine learning and computer vision conferences

Awards and Memberships

- 2019 Hector Science Award
- 2018 Gottfried Wilhelm Leibniz Prize
- 2018 State Research Award, Baden-Württemberg
- 2018 Causality in Statistics Education Award, American Statistical Association (with Dominik Janzing & Jonas Peters), for our monograph “Elements of Causal Inference”
- 2017 Fellow, Association for Computing Machinery (ACM)
- 2016 Member, Leopoldina (German National Academy of Sciences)
- 2015 Overseas Visiting Scholar, St John’s College, Cambridge (Easter Term)
- 2014 Royal Society Milner Award, London
- 2013 XXVIIIth Courant Lectures, New York University
- 2012 Academy Prize, Berlin-Brandenburg Academy of Sciences and Humanities
- 2011 Max Planck Research Award of the Alexander-von-Humboldt-Stiftung (with Sebastian Thrun, Stanford)
- 2011 Posner Lecture, Neural Information Processing Systems Conference
- 2011 Annual Brain Computer Interfacing Research Award (with Moritz Grosse-Wentrup)
- 2010 Inclusion in the list of ISI Highly Cited Researchers (Category: Engineering)
- 2006 J. K. Aggarwal Prize of the International Association for Pattern Recognition (IAPR)
- 2001 Scientific member of the Max Planck Society
- 1998 Prize for the best scientific project of GMD (German National Research Center for Computer Science)
- 1998 Annual dissertation prize of the German Society for Computer Science (GI)
- 1992 Lionel Cooper Memorial Prize of the University of London
- 1992 – 1997 Studienstiftung des deutschen Volkes
- 1987 Abitur, Eduard-Spranger-Gymnasium, top of the year, Prize for Mathematics and Sciences

Board member of the Neural Information Processing Systems Foundation and of the International Machine Learning Society. Chair of the Advisory Committee of the *Learning in Machines and Brains* program (funded by the Canadian Institute for Advanced Research; instrumental for “deep learning”).

Members of his lab have won awards at most major conferences in the field (COLT 2003, NIPS 2004, COLT 2005, COLT 2006, ICML 2006, ALT 2007, DAGM 2008, CVPR 2008, ISMB 2008, NIPS 2008, NIPS 2009, UAI 2010, IROS 2012, NIPS 2013, IROS 2014, ECML 2016, ICML 2017, ICML 2019)

Invited Presentations at Conferences (Selection)

American Association for Artificial Intelligence, *Madison, Wisconsin, USA (1998)*, Meeting of the Bernoulli Society, *Tokio (2000)*, Conf. of the American and Hong Kong Mathematical Societies, *Hong Kong (2000)*, Interface, *Orange County (2001)*, Neural Information Processing Systems, *Vancouver (2001)*, European Conf. on Machine Learning & European Conf. on Principles and Practice of Knowledge Discovery in Databases, *Helsinki (2002)*, International Conf. on Artificial Neural Networks, *Madrid (2002)*, International Statistical Institute, *Berlin (2003)*, Effective Computational Geometry, *ENS, Paris (2004)*, Mathematics and Image Analysis, *Paris (2004)*, International School “Eduardo R. Caianiello,” *Erice (2005)*, International Conf. on Pattern Recognition, *Hong Kong (2006)*, International Conf. on Machine Learning, *Corvallis, OR (2007)*, International Conf. on Artificial Neural Networks, *Porto (2007)*, Annual Conf. of the German Classification Society, *Hamburg (2008)*, European Signal Processing Conf., *Lausanne (2008)*, Methods for Mining Massive Data, *Copenhagen (2009)* Techkriti, *IIT Kanpur (2010)*, SANUM, *Stellenbosch (2010)* IPMU, *Dortmund (2010)*, Information Hiding Conference, *Prague (2011)*, Pattern Recognition in Neuroimaging, *London (2012)*, Maximum Entropy Conference, *Munich (2012)*, International Conference on Data Mining, *Brussels (2012)*, Regularization, Optimization and Kernels, *Leuven (2013)*, Mathematical and Statistical Aspects of Molecular Biology, *Sheffield (2014)* Symposium on Hyperspectral Imaging in Research and Engineering, *Sheffield (2014)*, Annual Meeting of the Max Planck Earth System Research Partnership, *Weimar (2014)*, International Symposium on Statistical Learning and Data Sciences, *London (2015)*, Drawing Causal Inference from Big Data, National Academy of Sciences, *Washington, D.C. (2015)*, IFAC SYSID, *Beijing (2015)*, ARES, *Salzburg (2016)*, Machine Learning for Signal Processing (MLSP), *Vietri sul Mare (2016)*, Conditional Independence Structures and Extremes, *Munich (2016)*, International Conference on Machine Learning (ICML), *Sydney (2017)*, Asian Conference on Machine Learning (ACML), *Seoul (2017)*, SIAM International Conference on Data Mining (SDM), *San Diego (2018)*, International Conference on Learning Representations (ICLR), *Vancouver (2018)*, Falling Walls Conference, *Berlin (2018)*

Invited Presentations at Universities and Research Institutes (Selection)

AT&T (*New Jersey*), MIT (*Cambridge, USA*), RIKEN (*Tokyo*), DENKEN (*Tokyo*), EPFL (*Lausanne, Switzerland*), MPI for Computer Science (*Saarbrücken*), MPI for Mathematics in the Sciences (*Leipzig*), MPI for Biochemistry (*Martinsried*), Daimler Benz Research (*Ulm*), Siemens R&D (*Neuperlach*), Australian National University (*Canberra*), University of Sydney (*Australia*), Royal Holloway University of London, Microsoft Research Redmond (*USA*) & Beijing (*China*), National University of Singapore, Oxford University, Ecole Polytechnique, Université Jussieu, Université Orsay, Ecole Centrale (*Paris*), KU Leuven, ETH (*Zürich*), German Cancer Research Institute (*Heidelberg*), TU Karlsruhe, Universität Göttingen, Cornell University (*Ithaca, NY*), National Taiwan University (*Taipeh*), Pao-Lu Hsu Lecture (*Beijing*), Helmholtz Lecture, Humboldt-Universität (*Berlin*), Google Research (*New York*), IST Austria (*Vienna*), Royal Society (*London*), Babbage Seminar, University of Cambridge (*UK*), Google DeepMind (*London*), Microsoft Distinguished Research Lecture (*Cambridge, UK*), Annual Oxford-Warwick Lectures in Statistics (*Oxford*), Annual IST Austria & ÖAW Lecture (*Vienna*)

Publication List

Books

1. J. Peters, D. Janzing, and B. Schölkopf. *Elements of Causal Inference - Foundations and Learning Algorithms*. MIT Press, Cambridge, MA, USA, 2017
2. B. Schölkopf and A. J. Smola. *Learning with Kernels*. MIT Press, Cambridge, MA, USA, 2002
3. B. Schölkopf. *Support Vector Learning*. Oldenbourg Verlag, München, Germany, 1997. Berlin, Techn. Univ., Dissertation, 1997

Edited Collections

4. B. Schölkopf, Z. Luo, and V. Vovk. *Empirical Inference - Festschrift in Honor of Vladimir N. Vapnik*. Springer, 2013b
5. H.H.-S. Lu, B. Schölkopf, and H. Zhao, editors. *Handbook of Statistical Bioinformatics*. Springer Handbooks of Computational Statistics. Springer, Berlin, Germany, 2011
6. G. H. Bakır, T. Hofmann, B. Schölkopf, A. J. Smola, B. Taskar, and S. V. N. Vishwanathan, editors. *Predicting Structured Data*. MIT Press, Cambridge, MA, USA, 2007a
7. O. Chapelle, B. Schölkopf, and A. Zien, editors. *Semi-Supervised Learning*. MIT Press, Cambridge, MA, USA, 2006
8. B. Schölkopf, K. Tsuda, and J. P. Vert, editors. *Kernel Methods in Computational Biology*. MIT Press, Cambridge, MA, USA, 2004
9. A. J. Smola, P. J. Bartlett, B. Schölkopf, and D. Schuurmans, editors. *Advances in Large Margin Classifiers*. MIT Press, Cambridge, MA, USA, 2000a
10. B. Schölkopf, C. J. C. Burges, and A. J. Smola, editors. *Advances in Kernel Methods — Support Vector Learning*. MIT Press, Cambridge, MA, USA, 1999b

Conference Proceedings

11. I. Guyon, D. Janzing, and B. Schölkopf, editors. *Causality: Objectives and Assessment (NIPS 2008 Workshop)*. JMLR Workshop and Conference Proceedings: Volume 6. Cambridge, MA, USA, 2010
12. B. Schölkopf, J. Platt, and T. Hofmann, editors. *Advances in Neural Information Processing Systems*, volume 19. MIT Press, Cambridge, MA, USA, 2007
13. Y. Weiss, B. Schölkopf, and J. Platt, editors. *Advances in Neural Information Processing Systems*, volume 18. MIT Press, Cambridge, MA, USA, 2006
14. C. E. Rasmussen, H. H. Bühlhoff, M. Giese, and B. Schölkopf, editors. *Pattern Recognition*. Number 3175 in Lecture Notes in Computer Science. Springer, Berlin, 2004
15. S. Thrun, L. K. Saul, and B. Schölkopf, editors. *Advances in Neural Information Processing Systems*, volume 16. MIT Press, Cambridge, MA, USA, 2004
16. B. Schölkopf and M. Warmuth, editors. *Proceedings of COLT'03*, volume 2777 of Lecture Notes in Computer Science. Springer, Heidelberg, Germany, 2003

Journal Papers

17. B. Tabibian, U. Upadhyay, A. De, A. Zarezade, B. Schölkopf, and M. Gomez Rodriguez. Enhancing human learning via spaced repetition optimization. *Proceedings of the National Academy of Sciences*, 2019. Published ahead of print January 22, 2019

18. J. Runge, S. Bathiany, E. Bollt, G. Camps-Valls, D. Coumou, E. Deyle, C. Glymour, M. Kretschmer, M.D. Mahecha, E.H. van Nes, J. Peters, R. Quax, M. Reichstein, M. Scheffer, B. Schölkopf, P. Spirtes, G. Sugihara, J. Sun, Ka. Zhang, and J. Zscheischler. Inferring causation from time series with perspectives in earth system sciences. *Nature Communications*, 10(2553), 2019
19. R. Babbar and B. Schölkopf. Data scarcity, robustness and extreme multi-label classification. *Machine Learning*, Special Issue of the ECML PKDD 2019 Journal Track, 2019
20. C.-J. Simon-Gabriel and B. Schölkopf. Kernel distribution embeddings: Universal kernels, characteristic kernels and kernel metrics on distributions. *Journal of Machine Learning Research*, 19(44): 1–29, 2018
21. D. Büchler, R. Calandra, B. Schölkopf, and J. Peters. Control of musculoskeletal systems using learned dynamics models. *IEEE Robotics and Automation Letters*, 3(4):3161–3168, 2018
22. S. Gomez-Gonzalez, G. Neumann, B. Schölkopf, and J. Peters. Adaptation and robust learning of probabilistic movement primitives. *IEEE Transactions on Robotics*, 2018
23. M. Rojas-Carulla, B. Schölkopf, R. Turner, and J. Peters. Invariant models for causal transfer learning. *Journal of Machine Learning Research*, 19(36):1–34, 2018
24. N. Pfister, P. Bühlmann, B. Schölkopf, and J. Peters. Kernel-based tests for joint independence. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 80(1):5–31, 2018
25. L. Xiao, F. Heide, W. Heidrich, B. Schölkopf, and M. Hirsch. Discriminative transfer learning for general image restoration. *IEEE Transactions on Image Processing*, 27(8):4091–4104, 2018
26. A. Loktyushin, P. Ehses, B. Schölkopf, and K. Scheffler. Autofocusing-based phase correction. *Magnetic Resonance in Medicine*, 80(3):958–968, 2018
27. R. Babbar, M. Heni, A. Peter, M. Hrabe de Angelis, H.-U. Häring, A. Fritsche, H. Preissl, B. Schölkopf, and R. Wagner. Prediction of glucose tolerance without an oral glucose tolerance test. *Frontiers in Endocrinology*, 9:82, 2018
28. K. Zhang, B. Schölkopf, P. Spirtes, and C. Glymour. Learning causality and causality-related learning: Some recent progress. *National Science Review*, 5(1):26–29, 2018
29. K. Muandet, K. Fukumizu, B. Sriperumbudur, and B. Schölkopf. Kernel mean embedding of distributions: A review and beyond. *Foundations and Trends in Machine Learning*, 10(1-2):1–141, 2017
30. M. R. Hohmann, T. Fomina, V. Jayaram, T. Emde, J. Just, M. Synofzik, B. Schölkopf, L. Schöls, and M. Grosse-Wentrup. Case series: Slowing alpha rhythm in late-stage ALS patients. *Clinical Neurophysiology*, 129(2):406–408, 2018
31. T. Fomina, S. Weichwald, M. Synofzik, J. Just, L. Schöls, B. Schölkopf, and M. Grosse-Wentrup. Absence of EEG correlates of self-referential processing depth in ALS. *PLOS ONE*, 12(6):e0180136, 2017
32. Z. Wang, A. Boularias, K. Mülling, B. Schölkopf, and J. Peters. Anticipatory action selection for human-robot table tennis. *Artificial Intelligence*, 247:399–414, 2017. Special Issue on AI and Robotics
33. P. Katiyar, M. R. Divine, U. Kohlhofer, L. Quintanilla-Martinez, B. Schölkopf, B. J. Pichler, and J. A. Disselhorst. Spectral clustering predicts tumor tissue heterogeneity using dynamic 18F-FDG PET: a complement to the standard compartmental modeling approach. *Journal of Nuclear Medicine*, 58(4): 651–657, 2017
34. D. Janzing and B. Schölkopf. Detecting confounding in multivariate linear models via spectral analysis. *Journal of Causal Inference*, 6(1), 2017
35. B. Schölkopf, D. Hogg, D. Wang, D. Foreman-Mackey, D. Janzing, C.-J. Simon-Gabriel, and J. Peters. Modeling confounding by half-sibling regression. *Proceedings of the National Academy of Science (PNAS)*, 113(27):7391–7398, 2016a

36. D. Janzing, R. Chaves, and B. Schölkopf. Algorithmic independence of initial condition and dynamical law in thermodynamics and causal inference. *New Journal of Physics*, 18(9), 2016
37. M. Khatami, T. Schmidt-Wilcke, P. C. Sundgren, A. Abbasloo, B. Schölkopf, and T. Schultz. BundleMAP: Anatomically localized classification, regression, and hypothesis testing in diffusion MRI. *Pattern Recognition*, 63:593–600, 2017
38. D. Grimm, D. Roqueiro, P. Salome, S. Kleeberger, B. Greshake, W. Zhu, C. Liu, C. Lippert, O. Stegle, B. Schölkopf, D. Weigel, and K. Borgwardt. easyGWAS: A cloud-based platform for comparing the results of genome-wide association studies. *The Plant Cell*, 29(1):5–19, 2017
39. M. Gomez-Rodriguez, L. Song, N. Du, H. Zha, and B. Schölkopf. Influence estimation and maximization in continuous-time diffusion networks. *ACM Transactions on Information Systems*, 34(2):9:1–9:33, 2016
40. J. M. Mooij, J. Peters, D. Janzing, J. Zscheischler, and B. Schölkopf. Distinguishing cause from effect using observational data: methods and benchmarks. *Journal of Machine Learning Research*, 17(32):1–102, 2016
41. M. Gomez Rodriguez, L. Song, H. Daneshmand, and B. Schölkopf. Estimating diffusion networks: Recovery conditions, sample complexity and soft-thresholding algorithm. *Journal of Machine Learning Research*, 17(90):1–29, 2016
42. D. Foreman-Mackey, T. D. Morton, D. W. Hogg, E. Agol, and B. Schölkopf. The population of long-period transiting exoplanets. *The Astronomical Journal*, 152(6):206, 2016
43. V. Jayaram, M. Alamgir, Y. Altun, B. Schölkopf, and M. Grosse-Wentrup. Transfer learning in brain-computer interfaces. *IEEE Computational Intelligence Magazine*, 11(1):20–31, 2016
44. K. Muandet, B. Sriperumbudur, K. Fukumizu, A. Gretton, and B. Schölkopf. Kernel mean shrinkage estimators. *Journal of Machine Learning Research*, 17(48):1–41, 2016
45. D. Wang, D. W. Hogg, D. Foreman-Mackey, and B. Schölkopf. A causal, data-driven approach to modeling the Kepler data. *Publications of the Astronomical Society of the Pacific*, 128(967):094503, 2016
46. E. Klenske, M. Zeilinger, B. Schölkopf, and P. Hennig. Gaussian process-based predictive control for periodic error correction. *IEEE Transactions on Control Systems Technology*, 24(1):110–121, 2016
47. M. Grosse-Wentrup, D. Janzing, M. Siegel, and B. Schölkopf. Identification of causal relations in neuroimaging data with latent confounders: an instrumental variable approach. *NeuroImage*, 125:825–833, 2016
48. C. J. Schuler, M. Hirsch, S. Harmeling, and B. Schölkopf. Learning to deblur. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(7):1439–1451, 2016
49. K. Zhang, Z. Wang, J. Zhang, and B. Schölkopf. On estimation of functional causal models: General results and application to post-nonlinear causal model. *ACM Transactions on Intelligent Systems and Technologies*, 7(2):article no. 13, 2016a
50. T. Fomina, G. Lohmann, M. Erb, T. Ethofer, B. Schölkopf, and M. Grosse-Wentrup. Self-regulation of brain rhythms in the precuneus: a novel BCI paradigm for patients with ALS. *Journal of Neural Engineering*, 13(6):066021, 2016
51. B. Schölkopf, K. Muandet, K. Fukumizu, S. Harmeling, and J. Peters. Computing functions of random variables via reproducing kernel Hilbert space representations. *Statistics and Computing*, 25(4):755–766, 2015b
52. A. Loktyushin, H. Nickisch, R. Pohmann, and B. Schölkopf. Blind multirigid retrospective motion correction of MR images. *Magnetic Resonance in Medicine*, 73(4):1457–1468, 2015
53. D. Foreman-Mackey, B. T. Montet, D. W. Hogg, T. D. Morton, D. Wang, and B. Schölkopf. A systematic search for transiting planets in the K2 data. *The Astrophysical Journal*, 806(2), 2015

54. B. Schölkopf. Artificial intelligence: Learning to see and act (News & Views). *Nature*, 518(7540): 486–487, 2015
55. M. Besserve, S. C. Lowe, N. K. Logothetis, B. Schölkopf, and S. Panzeri. Shifts of gamma phase across primary visual cortical sites reflect dynamic stimulus-modulated information transfer. *PLOS Biology*, 13:e1002257, 2015
56. S. Weichwald, T. Meyer, O. Özdenizci, B. Schölkopf, T. Ball, and M. Grosse-Wentrup. Causal interpretation rules for encoding and decoding models in neuroimaging. *NeuroImage*, 110:48–59, 2015
57. Z. Wang, A. Boularias, K. Mülling, B. Schölkopf, and J. Peters. Anticipatory action selection for human-robot table tennis. *Artificial Intelligence*, 247:399–414, 2017. Special Issue on AI and Robotics
58. M. Kopp, S. Harmeling, G. Schütz, B. Schölkopf, and M. Fähnle. Towards denoising XMCD movies of fast magnetization dynamics using extended Kalman filter. *Ultramicroscopy*, 148:115–122, 2015
59. R. Küffner, N. Zach, R. Norel, J. Hawe, D. Schoenfeld, L. Wang, G. Li, L. Fang, L. Mackey, O. Hardiman, M. Cudkowicz, A. Sherman, G. Ertaylan, M. Grosse-Wentrup, T. Hothorn, J. van Ligteneberg, JH. Macke, T. Meyer, B. Schölkopf, L. Tran, R. Vaughan, G. Stolovitzky, and ML. Leitner. Crowdsourced analysis of clinical trial data to predict amyotrophic lateral sclerosis progression. *Nature Biotechnology*, 33:51–57, 2015
60. D. Janzing and B. Schölkopf. Semi-supervised interpolation in an anticausal learning scenario. *Journal of Machine Learning Research*, 16:1923–1948, 2015
61. C. Persello, A. Boularias, M. Dalponte, T. Gobakken, E. Naeset, and B. Schölkopf. Cost-sensitive active learning with lookahead: Optimizing field surveys for remote sensing data classification. *IEEE Transactions on Geoscience and Remote Sensing*, 10(52):6652–6664, 2014
62. S. Martens, M. Bensch, S. Halder, J. Hill, F. Nijboer, A. Ramos-Murguialday, B. Schölkopf, N. Birbaumer, and A. Gharabaghi. Epidural electrocorticography for monitoring of arousal in locked-in state. *Frontiers in Human Neuroscience*, 8(861), 2014
63. M. Bensch, S. Martens, S. Halder, J. Hill, F. Nijboer, A. Ramos, N. Birbaumer, M. Bodgan, B. Kotchoubey, W. Rosenstiel, B. Schölkopf, and A. Gharabaghi. Assessing attention and cognitive function in completely locked-in state with event-related brain potentials and epidural electrocorticography. *Journal of Neural Engineering*, 11(2):026006, 2014
64. T. Meyer, J. Peters, T. O. Zander, B. Schölkopf, and M. Grosse-Wentrup. Predicting motor learning performance from electroencephalographic data. *Journal of NeuroEngineering and Rehabilitation*, 11:24, 2014
65. M. Gomez-Rodriguez, J. Leskovec, D. Balduzzi, and B. Schölkopf. Uncovering the structure and temporal dynamics of information propagation. *Network Science*, 2(1):26–65, 2014b
66. Z. Chen, K. Zhang, L. Chan, and B. Schölkopf. Causal discovery via reproducing kernel Hilbert space embeddings. *Neural Computation*, 26(7):1484–1517, 2014
67. J. Zscheischler, MD. Mahecha, J. v Buttlar, S. Harmeling, M. Jung, A. Rammig, JT. Randerson, B. Schölkopf, SI. Seneviratne, E. Tomelleri, S. Zaehle, and M. Reichstein. A few extreme events dominate global interannual variability in gross primary production. *Environmental Research Letters*, 9(3): 035001, 2014
68. K. Mülling, A. Boularias, B. Mohler, B. Schölkopf, and J. Peters. Learning strategies in table tennis using inverse reinforcement learning. *Biological Cybernetics*, 108(5):603–619, 2014
69. M. Grosse-Wentrup and B. Schölkopf. A brain-computer interface based on self-regulation of gamma-oscillations in the superior parietal cortex. *Journal of Neural Engineering*, 11(5):056015, 2014
70. J. Peters, J. M. Mooij, D. Janzing, and B. Schölkopf. Causal discovery with continuous additive noise models. *Journal of Machine Learning Research*, 15:2009–2053, 2014

71. D. Lang, D. Hogg, and B. Schölkopf. Towards building a crowd-sourced sky map. In *Proceedings of the Seventeenth International Conference on Artificial Intelligence and Statistics*, volume JMLR W&CP 33, page 549557. JMLR.org, 2014
72. D. Janzing, D. Balduzzi, M. Grosse-Wentrup, and B. Schölkopf. Quantifying causal influences. *Annals of Statistics*, 41(5):2324–2358, 2013
73. Z. Wang, K. Mülling, M. Deisenroth, H. Ben Amor, D. Vogt, B. Schölkopf, and J. Peters. Probabilistic movement modeling for intention inference in human-robot interaction. *International Journal of Robotics Research*, 32(7):841–858, 2013
74. I. Bezrukov, H. Schmidt, F. Mantlik, N. Schwenzer, C. Brendle, B. Schölkopf, and B.J. Pichler. MR-based attenuation correction methods for improved PET quantification in lesions within bone and susceptibility artifact regions. *Journal of Nuclear Medicine*, 54(10):1768–1774, 2013
75. T. Schultz, L. Schlaffke, B. Schölkopf, and T. Schmidt-Wilcke. Hifive: A Hilbert space embedding of fiber variability estimates for uncertainty modeling and visualization. *Computer Graphics Forum*, 32(3):121–130, 2013
76. A. Loktyushin, H. Nickisch, R. Pohmann, and B. Schölkopf. Blind retrospective motion correction of MR images. *Magnetic Resonance in Medicine*, 70(6):1608–1618, 2013
77. A. Gretton, K. Borgwardt, M. Rasch, B. Schölkopf, and A. Smola. A kernel two-sample test. *Journal of Machine Learning Research*, 13:723–773, 2012
78. D. Janzing, J. Mooij, K. Zhang, J. Lemeire, J. Zscheischler, P. Daniušis, B. Steudel, and B. Schölkopf. Information-geometric approach to inferring causal directions. *Artificial Intelligence*, 182-183:1–31, 2012
79. N. J. Hill and B. Schölkopf. An online brain-computer interface based on shifting attention to concurrent streams of auditory stimuli. *Journal of Neural Engineering*, 9(2):026011, 2012
80. M. Grosse-Wentrup and B. Schölkopf. High gamma-power predicts performance in sensorimotor-rhythm brain-computer interfaces. *Journal of Neural Engineering*, 9(4):046001, 2012
81. B. Sriperumbudur, K. Fukumizu, A. Gretton, B. Schölkopf, and G. Lanckriet. On the empirical estimation of integral probability metrics. *Electronic Journal of Statistics*, 6:1550–1599, 2012
82. T. Kam-Thong, C-A. Azencott, L. Cayton, B. Pütz, A. Altmann, N. Karbalai, PG. Sämann, B. Schölkopf, B. Müller-Myhsok, and KM. Borgwardt. GLIDE: GPU-based linear regression for detection of epistasis. *Human Heredity*, 73(4):220–236, 2012
83. I. Bezrukov, F. Mantlik, H. Schmidt, B. Schölkopf, and B.J. Pichler. MR-based PET attenuation correction for PET/MR imaging. *Seminars in Nuclear Medicine*, 43(1):45–59, 2012
84. T. Kitching, A. Amara, M. Gill, S. Harmeling, C. Heymans, R. Massey, B. Rowe, T. Schrabback, L. Voigt, S. Balan, G. Bernstein, M. Bethge, S. Bridle, F. Courbin, M. Gentile, A. Heavens, M. Hirsch, R. Hosseini, A. Kiessling, D. Kirk, K. Kuijken, R. Mandelbaum, B. Moghaddam, G. Nurbaeva, S. Paulin-Henriksson, A. Rassat, J. Rhodes, B. Schölkopf, J. Shawe-Taylor, M. Shmakova, A. Taylor, M. Velander, L. van Waerbeke, D. Witherick, and D. Wittman. Gravitational lensing accuracy testing 2010 (GREAT10) challenge handbook. *Annals of Applied Statistics*, 5(3):2231–2263, 2011
85. F. Mantlik, M. Hofmann, M. K. Werner, A. Sauter, J. Kupferschläger, B. Schölkopf, B. J. Pichler, and T. Beyer. The effect of patient positioning aids on PET quantification in PET/MR imaging. *European Journal of Nuclear Medicine and Molecular Imaging*, 38(5):920–929, 2011
86. M. Gomez-Rodriguez, J. Peters, J. Hill, B. Schölkopf, A. Gharabaghi, and M. Grosse-Wentrup. Closing the sensorimotor loop: haptic feedback facilitates decoding of motor imagery. *Journal of Neural Engineering*, 8(3):1–12, 2011c
87. M. Hirsch, B. Schölkopf, and M. Habeck. A blind deconvolution approach for improving the resolution of cryo-EM density maps. *Journal of Computational Biology*, 18(3):335–346, 2011b

88. M. Hirsch, S. Harmeling, S. Sra, and B. Schölkopf. Online multi-frame blind deconvolution with super-resolution and saturation correction. *Astronomy and Astrophysics*, 531(A9), 2011a. Best Poster Award at the International Conference on Cosmology and Statistics (CosmoStats09)
89. B. Schölkopf. Empirical inference. *International Journal of Materials Research*, 2011(7):809–814, 2011
90. J. Peters, D. Janzing, and B. Schölkopf. Causal inference on discrete data using additive noise models. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 33(12):2436–2450, 2011a
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