

- 2013 Research Fellowship from the Simons Institute at UC Berkeley for the program “Theoretical Foundations of Big Data Analysis” during Fall 2013
- 2013 Golden Chalk Award for excellence in teaching from IST Austria
- 2010 – 2011 Janggen-Poehn Fellowship (full tuition and stipend 2010-2011)
- 2007 – 2010 International Fulbright Science and Technology Award (full tuition and stipend, 30 fellows per year worldwide)
- 2007 Best Student Award of the University of Zurich (highest GPA)

Main Research Interests

Mathematical statistics (algebraic statistics, multivariate analysis, graphical models, causal inference, maximum likelihood estimation); *Convex optimization* (semidefinite programming, sparsity-based learning); *Applied algebraic geometry*; *Mathematical biology* (chromosome packing models, gene regulatory networks);

Workshop and Conference Organization

- 07/25-08/19, 2016 Short thematic program:
 Statistical Causal Inference CRM, Montréal
 and Applications to Genetics
- Jun 8-11, 2015 Algebraic Statistics 2015 University of Genoa, Italy
- Aug 25-29, 2014 Prague Stochastics 2014 Academy of Sciences, Czech Republic
- Jul 14-17, 2014 Algebraic Statistics Workshop NIMS, Daejeon, South Korea
- Sep 28-30, 2012 Algebraic Statistics in Europe IST Austria

Minisymposium Organization

- 07/30-08/04, 2016 Topic contributed paper session sponsored by IMS JSM, Chicago
- Aug 3-7, 2015 SIAM Conference on Applied Algebraic Geometry Daejeon, Korea
- Jul 26-31, 2015 60th World Statistics Congress – ISI2015 Rio, Brazil
- Aug 1-4, 2013 SIAM Conference on Applied Algebraic Geometry Colorado State U.

Editorial Activities

- 2015 Program committee, *ICML*
- 2014 - Editorial board, *Journal of Algebraic Statistics*
- 2011 - Referee for most major Statistics journals, e.g. *Ann. Stat.*, *J. Am. Stat. Assoc.*, *J. Mach. Learn. Res.*, *Bernoulli*, *Electron. J. Stat.*; Reviewer for *ICML*;

Outreach

- 2015 - Judge for the Intel Science Talent Search, the most prestigious science research competition for high school seniors in the US
- 2001 - 2006 Mathematics teacher at secondary school and high school in Switzerland
- 2003 - 2007 Co-founder and manager of Thailand-Volunteering Association for Swiss students to teach Mathematics and English in Nam Rong, Thailand

Teaching

Fall '16	Algebraic Techniques and Semidefinite Optimization (course 6.256)	MIT
Spring '15	Modeling: core PhD course	IST Austria
Spring '13, '14	Applied Statistics: core PhD course	IST Austria
Spring '14, '15	Convex Optimization: advanced PhD course	IST Austria
06/2013	1-week summer school on Algebraic Statistics	Nordfjordeid, Norway
2006 - 2007	Graduate Student Instructor, Advanced Algebra	University of Zurich
2001 - 2006	High School and Middle School Teacher	Switzerland

Students and Postdocs

- Students:* A. Belyaeva, L. Matejovicova, A. Radhakrishnan
- Postdocs:* E. Perrone, L. Solus
- Former Postdocs:* A. Klimova (now at Dresden University of Technology), A. Martin del Campo (now at CIMAT, Guanajuato), F. Mohammadi (now at TU Berlin), P. Norén (now at North Carolina State University)

Publications

- 25 MOHAMMADI, F., UHLER, C., WANG, C. AND YU, J., “Generalized permutohedra from probabilistic graphical models”, submitted, preprint available at <http://arxiv.org/abs/1606.01814>.
- 24 WANG, Y., NAGARAJAN, M., UHLER, C. AND SHIVASHANKAR, G.V., “Cell geometry orients and repositions chromosomes to regulate genomic programs”, submitted.
- 23 UHLER, C., LENKOSKI, A. AND RICHARDS, D., “Exact formulas for the normalizing constants of Wishart distributions for graphical models”, submitted, preprint available at <http://arxiv.org/abs/1406.4901>.

- 22 RASKUTTI, G. AND UHLER, C., “Learning directed acyclic graphs based on sparsest permutations”, submitted, preprint available at <http://arxiv.org/abs/1307.0366>.
- 21 ZWIERNIK, P., UHLER, C. AND RICHARDS, D., “Maximum likelihood estimation for linear Gaussian covariance models”, to appear in *Journal of the Royal Statistical Society Series B*, preprint available at <http://arxiv.org/abs/1408.5604>.
- 20 SOLUS, L., YOSHIDA, R. AND UHLER, C., “Extremal positive semidefinite matrices for weakly bipartite graphs”, to appear in *Linear Algebra and its Applications*, preprint available at <http://arxiv.org/abs/1506.06702>.
- 19 MARTIN DEL CAMPO, A., CEPEDA, S. AND UHLER, C., “Exact goodness-of-fit testing for the Ising model”, to appear in *Scandinavian Journal of Statistics*, preprint available at <http://arxiv.org/abs/1410.1242>.
- 18 FALLAT, S., LAURITZEN, S., SADEGHI, K., UHLER, C., WERMUTH, N. AND ZWIERNIK, P., “Total positivity in Markov structures”, to appear in *Annals of Statistics*, preprint available at <http://arxiv.org/abs/1510.01290>.
- 17 UHLER, C. AND SHIVASHANKAR, G.V., “Geometric control and modeling of genome reprogramming”, to appear in *BioArchitecture*.
- 16 MICHALEK, M., STURMFELS, B., UHLER, C. AND ZWIERNIK, P., “Exponential varieties”, *Proceedings of the London Mathematical Society*, 112 (2016), pp. 27–56.
- 15 KLIMOVA, A., UHLER, C. AND RUDAS, T., “Faithfulness and learning of hypergraphs from discrete distributions”, *Journal of Computational Statistics and Data Analysis*, 87 (2015), pp. 57–72.
- 14 LIN, S., UHLER, C., STURMFELS, B. AND BÜHLMANN, P., “Hypersurfaces and their singularities in partial correlation testing”, *Foundations of Computational Mathematics*, 14 (2014), pp. 1079–1116.
- 13 YU, F., RYBAR, M., UHLER, C. AND FIENBERG, S. E., “Differentially private logistic regression for detecting multiple-SNP association in GWAS databases”, *Privacy in Statistical Databases*, 8744 (2014), pp. 170–184.
- 12 IGLESIAS-HAM, M., KERBER, M. AND UHLER, C., “Sphere packing with limited overlap”, *Proc. 26th Canadian Conference on Computational Geometry* (2014).
- 11 YU, F., FIENBERG, S. E., SLAVKOVIĆ, A. AND UHLER, C., “Scalable privacy-preserving data sharing methodology for genome-wide association studies”, *Journal of Biomedical Informatics*, 50 (2014), pp. 133–141.
- 10 UHLER, C. AND WRIGHT, S. J., “Packing ellipsoids with overlap”, *SIAM Review*, 55 (2013), pp. 671–706. (selected as Research Spotlight).
- 9 UHLER, C., RASKUTTI, G., BÜHLMANN, P. AND YU, B., “Geometry of faithfulness assumption in causal inference”, *Annals of Statistics* 41 (2013), pp. 436–463.
- 8 UHLER, C., FIENBERG, S. E. AND SLAVKOVIĆ, A., “Privacy-preserving data sharing for genome-wide association studies”, *Journal of Privacy and Confidentiality* 5 (2013).

- 7 UHLER, C., “Geometry of maximum likelihood estimation in Gaussian graphical models”, *Annals of Statistics* 40 (2012), pp. 238–261.
- 6 FIENBERG, S. E. SLAVKOVIĆ, A. AND UHLER, C., “Privacy preserving GWAS data sharing”, *Proc. 11th IEEE International Conference on Data Mining* (2011).
- 5 MALASPINAS, A. AND UHLER, C., “Detecting epistasis via Markov bases”, *Journal of Algebraic Statistics* 2 (2011), pp. 36–53.
- 4 STURMFELS, B. AND UHLER, C., “Multivariate Gaussians, semidefinite matrix completion and convex algebraic geometry”, *Annals of the Institute of Statistical Mathematics* 62 (2010), pp. 603–638.
- 3 EVANS, S. N., STURMFELS, B. AND UHLER, C., “Commuting birth-and-death processes”, *Annals of Applied Probability* 20 (2010), pp. 238–266.
- 2 UHLER, C., “Mastitis in dairy production: Estimation of sensitivity, specificity and disease prevalence in the absence of a gold standard,” *Journal of Agricultural, Biological, and Environmental Statistics* 14 (2009), pp. 79–98.
- 1 GREEN, R. E., MALASPINAS, A., KRAUSE, J., BRIGGS, A. W., JOHNSON, P. L., UHLER, C., MEYER, M., GOOD, J. M., MARICIC, T., STENZEL, U., PRÜFER, K., SIEBAUER, M., BURBANO, H. A., RONAN, M., ROTHBERG, J. M., EGHOLM, M., RUDAN, P., BRAJKOVIĆ, D., KUĆAN, Z., GUSIĆ, I., WIKSTRÖM, M., LAAKKONEN, L., KELSO, J., SLATKIN, M., AND PÄÄBO, S., “A complete Neandertal mitochondrial genome sequence determined by high-throughput sequencing”, *Cell* 134 (2008), pp. 416–426.

Plenary Invited Talks

- 08/2016 5th International Conference on Continuous Optimization (ICCOPT). Tokyo.
- 07/2015 Current Trends on Gröbner Bases. Osaka, Japan.
- 06/2015 Conference on Effective Methods in Algebraic Geometry (MEGA). Trento.
- 06/2012 Algebraic Statistics in the Alleghenies. Penn State U.

Invited Talks

- 08/2016 Joint Statistical Meetings (JSM). Chicago.
- 07/2016 SIAM Annual Meeting. Boston.
- 07/2016 9th World Congress on Probability and Statistics. Toronto.
- 06/2016 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting. Hong Kong.
- 05/2016 MBI-IFOM Joint Retreat. Milano.
- 05/2016 Symposium on Mathematical & Computational Biology. UPenn.
- 03/2016 Symposium. LabLinks, Gene Circuits, Broad Institute, Boston.
- 03/2016 Scientific Computing Seminar. Division of Applied Mathematics, Brown U.

02/2016 Biophysical Society Meeting. Los Angeles.
02/2016 Seminar. Department of Statistics, University of Chicago.
02/2016 Seminar. Models, Inference and Algorithms, Broad Institute, Boston.
01/2016 Workshop on Optimization and Parsimonious Modeling. IMA, Minneapolis.
01/2016 Meeting on Information Processing in Biological Systems. ICTS, Bangalore.
12/2015 Seminar. London Business School.
12/2015 8th Intl Conference on Computational and Methodological Statistics. London.
12/2015 Seminar. Operations Research and Financial Engineering, Princeton University.
11/2015 Algebra Seminar. School of Mathematics, Georgia Tech.
11/2015 Colloquium. College of Sciences and Mathematics, Auburn University.
11/2015 Colloquium. School of Mathematics, Georgia Tech.
08/2015 Seminar. Mechanobiology Institute, National University of Singapore.
08/2015 SIAM Conference on Applied Algebraic Geometry. Daejeon, Korea
07/2015 60th World Statistics Congress – ISI2015. Rio de Janeiro, Brazil.
07/2015 Current Trends on Gröbner Bases. Osaka, Japan.
06/2015 Conference on Effective Methods in Algebraic Geometry (MEGA). Trento.
05/2015 Workshop on NonLinear Algebra. Berlin.
03/2015 Seminar. Department of Electrical Engineering and Computer Science, MIT.
03/2015 Seminar. Department of Mathematics, EPFL.
03/2015 Seminar. Department of Statistics, Université Libre de Bruxelles.
02/2015 Seminar. Department of Mathematics, MIT.
02/2015 Seminar. Department of Computing and Mathematical Sciences, Caltech.
01/2015 Colloquium. Department of Mathematics, UC Berkeley.
01/2015 Seminar. Department of Mathematics, UC San Diego.
01/2015 Seminar. Department of Statistics, Columbia University.
12/2014 Big Data Reunion Workshop. Simons Institute, UC Berkeley.
11/2014 Seminar. Department of Statistics, University of Oxford.
11/2014 Seminar. Department of Statistics, Columbia University.
11/2014 Seminar. Department of Computing and Mathematical Sciences, Caltech.
10/2014 AMS Fall Western Sectional Meeting. San Francisco State University.
10/2014 Seminar. Computational Algebraic Geometry. UC Berkeley.
10/2014 Seminar. Department of Statistics, University of Pennsylvania.
08/2014 21st International Conference on Computational Statistics. Geneva, Switzerland.
07/2014 Workshop on Algebraic Statistics. NIMS, Daejeon, South Korea.
07/2014 Australian Statistical Conference. Sydney, Australia.
06/2014 Kreisky Forum. Vienna, Austria.

06/2014 Workshop on Simplicity and Causal Discovery. Carnegie Mellon University.
05/2014 Series on Systems, Information, Learning and Optimization. Wisconsin
Institute of Discovery, University of Wisconsin - Madison.
05/2014 Algebraic Statistics Meeting. IIT Chicago.
05/2014 Applied Algebra Days. University of Wisconsin-Madison.
05/2014 Statistics Seminar. Statistical Laboratory, University of Cambridge.
03/2014 Seminar. Department of Mathematics, Comenius University, Bratislava.
03/2014 Conference on Applications of Real Algebraic Geometry. Aalto U., Finland.
01/2014 Discrete Mathematics and Optimization Seminar. Alpen-Adria U., Klagenfurt.
11/2013 Research Seminar. Cell Biology, UC Berkeley.
11/2013 Workshop on Graphical Models. Ruprecht-Karls-Universität Heidelberg.
08/2013 Seminar. Institute for Infocomm Research, Singapore.
08/2013 Seminar. Mechanobiology Institute, National University of Singapore.
08/2013 SIAM Meeting on Applied Algebraic Geometry. Colorado State University.
07/2013 International Conference on Continuous Optimization. Lisbon, Portugal.
07/2013 European Meeting of Statisticians. Budapest, Hungary.
06/2013 19th Conference on Applications of Computer Algebra. Malaga, Spain.
05/2013 Computer Science Seminar. IST Austria.
05/2013 Statistics Seminar. Medical University of Vienna
04/2013 Seminar on Complex and Stochastic Systems. Physics Dep., U. of Vienna.
03/2013 Colloquium. Department of Mathematics, University of Vienna
03/2013 Wien - Linz Workshop on Algebraic Geometry. Wachau, Austria.
02/2013 Seminar. Department of Statistics, Harvard University.
02/2013 Algebraic Statistics Seminar. UC Berkeley.
02/2013 Seminar. Department of Statistics, Stanford University.
01/2013 Seminar. Department of Statistics, University of Wisconsin - Madison.
10/2012 Biomathematics Seminar. University of Vienna.
09/2012 Seminar. Computational Science Center, University of Vienna.
08/2012 21st International Symposium on Mathematical Programming. Berlin.
07/2012 Series on Systems, Information, Learning and Optimization. Wisconsin
Institute of Discovery, University of Wisconsin - Madison.
06/2012 Seminar. Department of Biosystems, Science and Engineering, ETH Zurich.
06/2012 Research Seminar. Seminar for Statistics, ETH Zurich.
05/2012 Computer Algebra Seminar. Research Inst. for Symbolic Computation, Linz.
05/2012 Institute for Statistics and Operations Research Colloquium. U. of Vienna.
04/2012 Computational Algebra Seminar. UC Berkeley.

- 02/2012 Optimization & Applications Seminar. Institute for Operations Research, ETH Zurich.
- 10/2011 IMA Postdoc Seminar. University of Minnesota.
- 10/2011 SIAM Conference on Applied Algebraic Geometry, North Carolina State U.
- 06/2011 CDI Meeting: Integrating Statistics and Computational Approaches to Data Privacy, Penn State University.
- 04/2011 Seminar on Computational Topology. Stanford University.
- 12/2010 Research Seminar in Statistics. ETH Zurich.
- 09/2010 Statistics and Genomics Seminar. UC Berkeley.
- 06/2010 The Second CREST-SBM International Conference on Harmony of Groebner Bases and the Modern Industrial Society. Osaka, Japan.
- 03/2010 AMS Sectional Meeting on Advances in Algebraic Statistics. Lexington, KY.
- 03/2010 Seminar on Convex Algebraic Geometry, UC Berkeley.
- 07/2009 Second de Brun Workshop on Computational Algebra. Galway, Ireland.
- 06/2009 Group meeting of Monique Laurent. CWI Amsterdam.
- 06/2009 EIDMA Seminar on Combinatorial Theory. Technische Universiteit Eindhoven.
- 05/2009 FRG Meeting: Semidefinite Optimization & Convex Algebraic Geometry. MIT.
- 03/2010 AMS Sectional Meeting on Advances in Algebraic Statistics. Lexington, KY.
- 04/2009 Seminar on Discrete Mathematics. UC Berkeley.
- 12/2008 Workshop on Algebraic Statistics. MSRI, Berkeley.
- 10/2008 Seminar on Discrete Mathematics. UC Berkeley.
- 08/2008 Seminar. Department of Biosystems, Science and Engineering. ETH Zurich.
- 07/2008 Seminar on Model Selection. Technische Universität Berlin.

Additional Conference Attendance

- 10/2014 AIM Workshop on “Positivity, graphical models, and modeling of complex multivariate dependencies”. AIM Conference Center, Palo Alto.
- 11/2013 The Statistics 2013 Capstone Event: Workshop about the Future of the Statistical Sciences. Royal Statistical Society, London (attendance by invitation only).
- 06/2013 4D Nucleome Workshop. Institute of Molecular Biology, Mainz, Germany.
- 12/2011 AIM Workshop on “Singular Learning Theory: Connecting Algebraic Geometry and Model Selection in Statistics”. AIM Conference Center, Palo Alto.
- 10/2010 AIM Workshop on “Parameter Identification in Graphical Models”. AIM Conference Center, Palo Alto.

- 09/2008 Opening Workshop on Algebraic Methods in Systems Biology and Statistics.
SAMSI, Research Triangle Park, NC.
- 07/2008 XX International Congress of Genetics. Berlin, Germany.
- 06/2008 LMS Durham Symposium on Mathematical Aspects of Graphical Models.
Durham, UK
- 03/2007 IMA Workshop on Applications in Biology, Dynamics and Statistics.
University of Minnesota.
- 06/2006 Summer School on Algebraic Statistics, Tropical Geometry and Computational
Biology. Nordfjordeid, Norway.