

# Florentina Bunea

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## Education

- Ph.D. in Statistics, University of Washington, Seattle, 2000.  
Advisor: Jon A. Wellner.
- B.S./M.S. in Mathematics, First Class, University of Bucharest, Romania, 1991.

## Employment

- **Professor:** Cornell University, Department of Statistics and Data Science, 2011 -
  - Graduate Field Faculty Member: the Center for Applied Mathematics (CAM); Statistics; Computer Science.
  - Member of the Advisory Council for Data Science for Enterprise and Society.
  - Member of the Bowers CIS Council on Diversity and Inclusion.
- Affiliate Professor, NYU Center for Data Science, 2021 - 2023.
- **Assistant/Associate Professor:** Florida State University, Department of Statistics, 2000 - 2011.
- **Research/Teaching Assistant:** University of Washington, Department of Statistics, September 1995 - August 2000; University Politehnica Bucharest, Department of Mathematics, September 1991 - September 1995.

## Research Interests

- Foundations of data science; statistical machine learning theory.
- High dimensional statistical inference in parametric and non-parametric models: regression, covariance estimation, graphical models, model-based clustering (hard clustering and overlapping clustering), cluster-based models, latent variable models, topic models, networks, new perspectives in prediction problems, statistical aspects regarding Wasserstein-like distances between mixture distributions; statistical analysis of optimal transport plans between structured distributions and applications to data integration.
- Applications to Immunology, Systems Biology, Genetics, Neuroscience, Text Mining and other areas.

## Editorship

- Series Editor: Monographs on Statistics and Applied Probability (The Green Series), Chapman & Hall/CRC (2009 - ongoing).
- Associate Editor: The Annals of Statistics (2007 - 2010; 2016 - ongoing).
- Associate Editor: The Electronic Journal of Statistics, EJS (2007 - 2022). Guest Editor for a special 2016 issue on High dimensional modeling.
- Associate Editor: The Journal of the American Statistical Association, JASA - Theory and Methods, (2011 - 2017).
- Associate Editor: Bernoulli (2010 - 2016).
- Associate Editor: Journal of the Royal Statistical Society (JRSS)-B (2012- 2014)
- Associate Editor: The Annals of Applied Statistics (2011 - 2012).
- Associate Editor: The International Journal of Biostatistics, Berkeley Press (2007 - 2012).

## Grants

- NSF-DMS award 2210563, PI. *Statistical Optimal Transport for High Dimensional Mixtures*, 2022 - 2025. Collaborative research with Jon Niles-Weed, Courant Math Institute, NYU.
- NIH subcontract *Latent space clustering for biological discovery*, via University of Pittsburgh Medical School, 2021.
- NSF-DMS award 2015195, PI, *Learning from hidden signatures in high dimensional models*, 2020 - 2023.
- NSF-DMS award 1712709, PI, *Statistical foundations of model-based variable clustering*, 2017 - 2020.
- NSF-DMS award 1310119, co-PI, *Estimation of high dimensional matrices of low effective rank with applications to structural copula models*, 2013 - 2016.
- NSF-DMS award 10007444, PI, *Matrix estimation under rank constraints for complete and incomplete noisy data*, 2010 - 2013.
- (NSF-DMS) award 0925275, PI, conference grant, *From Probability to Statistics and Back: High-Dimensional Models and Processes*, Seattle, July 28 - 31, 2010.
- (NSF-DMS) award 0706829, co-PI: *Sparsity oracle inequalities via l1 regularization in non-parametric models*, 2007 - 2010.
- (NSF-DMS) 0406049, PI: *Curve aggregation and classification*, 2004 - 2007.

## Invited Fellow/Scholar/Honors

- Invited Visiting Professor, Munich Institute of Technology (TUM), Dept. of Mathematics, Spring 2022.
- Invited Visiting Professor at Columbia University, Department of Statistics, Spring 2022.
- Invited Visiting Researcher, Simons Institute, semester on Computational Complexity of Statistical Inference, November-December 2021.
- Invited Visiting Professor at the Courant Institute and Center for Data Science, NYU, 2021 - 2022.
- Elected Fellow of the Institute of Mathematical Statistics (IMS), 2017 (For foundational work in model selection and aggregation in parametric, semi-parametric and non-parametric models).
- Fellow of the Newton Institute, Cambridge University, UK, 2008, 2016, 2018.
- SAMSI fellow, Spring 2014.
- Invited Professor, Université de Paris VI and CREST, France, 2003, 2009 (Host: Alexandre Tsybakov.).
- Invited Visiting Scholar, The John Hopkins School of Public Health, Jan/Feb 2008.
- Invited Researcher, L'Institut Henri Poincaré, Paris, France, April - July 2001. (Host: Lucien Birgé.)
- The Centre National de la Recherche Scientifique (CNRS) Award in Statistics for young researchers, 2001 (CNRS is the French equivalent of the National Science Foundation.)

## Service to the academic community at large, diversity and education

- Institute of Mathematical Statistics, Committee on Nominations, 2022-2025.
- Institute of Mathematical Statistics (IMS) Council Member (elected), 2014 - 2017.
- IMS representative to the selection committee of the COPSS F.N. David Award for exceptional women in Applied Statistics, 2014 - 2018.
- NSF - DMS Panel member: 2008, 2009, 2011, 2012, 2014, 2015, 2017, 2018, 2020, 2021, 2023.

## Conference and/or Program co-organizer

- *Statistics and Learning Theory in the Era of Artificial Intelligence*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany, June 2024.
- *Re-thinking high dimensional statistics*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany, May 2022.
- *CIS @ 20*, A conference celebrating 20 years since the creation of the college of Computing and Information Science (CIS) at Cornell University, October 2019.

- *Matrix Estimation Meets Statistical Network Analysis: Extracting low-dimensional structures in high dimension*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany, 2018.
- *Theory of Big Data*, London, UK, 2017.
- *Cornell Day of Statistics*, Cornell University, September 2015, 2016.
- *LDHD Workshop. Statistical Inference in Sparse High-dimensional Models: theoretical and computational challenges*, SAMSI, North Carolina, February 2014.
- Summer school organizer for the LDHD SAMSI Program, SAMSI, North Carolina, August 2013.
- Program leader for the 2013 - 2014 SAMSI Program on *Low-dimensional Structure in High-dimensional Systems (LDHD)*.
- *From Probability to Statistics and Back: High-Dimensional Models and Processes*, Seattle, Washington, July 2010.
- *Nonparametrics Statistics*, International Conference, Tallahassee, Florida, Jan 2003.

## Publication Record

### Published, Accepted and Preprint Papers

(In inverse chronological order)

- Shuyu Liu, Florentina Bunea, and Jon Niles-Weed; *Asymptotic confidence sets for random linear programs*, 2023, <https://arxiv.org/pdf/2302.12364.pdf>, submitted to COLT (Conference on Learning Theory)
- Xin Bing, Florentina Bunea and Jon Niles-Weed, *The Sketched Wasserstein Distance for mixture distributions*, <https://arxiv.org/abs/2206.12768>, 2022+, Under revision; Revised title (2023) *Estimation and Inference for the Wasserstein Distance between mixing measures in topic models*.
- Xin Bing, Florentina Bunea, Seth Strimas-Mackey and Marten Wegkamp. *Likelihood estimation of sparse topic distributions in topic models and its applications to Wasserstein document distance calculations*, **Annals of Statistics**, 2022, Vol 50, pages 3307 - 3333.
- J. Rahimikollu, H. Xiao, Anna E. Rosengart, Tracy Tabib, Paul Zdinak, Kun He, Xin Bing, Florentina Bunea, Marten Wegkamp, Amanda C. Poholek, Alok V Joglekar, Robert A Lafyatis, Jishnu Das *SLIDE: Significant Latent Factor Interaction Discovery and Exploration across biological domains*, 2022+, under revision
- Florentina Bunea, Seth Strimas-Mackey, Marten Wegkamp, *Interpolating predictors in high-dimensional factor regression*, **Journal of Machine Learning Research**, Vol. 23, pages 1-60, 2022; <https://arxiv.org/abs/2002.02525>

- Xin Bing, Florentina Bunea and Marten Wegkamp. *Detecting approximate replicate components of a high-dimensional random vector with latent structure*, **Bernoulli**, 2023, Vol. 29, pages 1368-1392 <https://arxiv.org/abs/2010.02288>.
- Xin Bing, Tyler Lovelace, Florentina Bunea, Marten Wegkamp, Harinder Singh, Panayiotis V Benos, Jishnu Das. *Essential Regression: a generalizable framework for inferring causal latent factors from multi-omic human datasets*, **Patterns (Cell Press)**, 2022.
- Xin Bing, Florentina Bunea, Seth Strimas-Mackey and Marten Wegkamp. *Prediction in latent factor regression: Adaptive PCR and beyond*, **Journal of Machine Learning Research**, 2021, Vol. 22.
- Xin Bing, Florentina Bunea, Marten Wegkamp, *Inference in latent factor regression with clusterable features*, **Bernoulli**; 2022, Vol 28; *Winner of the Institute of Mathematical Statistics (IMS) Larry Brown best paper award, 2020*.
- Xin Bing, Florentina Bunea, Marten Wegkamp, *Optimal estimation of sparse topic models*, **Journal of Machine Learning Research**, 21 (177), 2020.
- Xin Bing, Florentina Bunea and Marten Wegkamp, *A fast algorithm with minimax optimal guarantees for topic models with an unknown number of topics*, **Bernoulli**, 26 (3), 2020.
- Xin Bing, Florentina Bunea, Yang Ning, Marten Wegkamp, *Adaptive Estimation in Structured Factor Models with Applications to Overlapping Clustering*, **The Annals of Statistics**, 48 (4), 2020.
- C. Eisenach, F. Bunea, Y. Ning and C. Dinicu, *High Dimensional Inference in Cluster-Based Graphical Models*, <https://arxiv.org/abs/1806.05139>, **Journal of Machine Learning Research**, 21 (53), 2020.
- Florentina Bunea, Christophe Giraud, Martin Royer, Nicolas Verzelen, and Xi Luo, *Model-assisted variable clustering: minimax-optimal recovery and algorithms*, **The Annals of Statistics**, 2020, Vol. 48, pp. 111 - 137
- Xin Bing, Florentina Bunea, Martin Royer, Jishnu Das, *Latent model-based clustering for biological discovery*, **iScience**, 125 - 135, 2019.
- F. Bunea, C. Giraud, M. Royer and N. Verzelen, *PECOK: a convex optimization approach to variable clustering*, <https://arxiv.org/abs/1606.05100> (2016, 2017).

- F. Bunea, C. Giraud and X. Luo, Minimax optimal variable clustering in G-models via CORDC <https://arxiv.org/pdf/1508.01939.pdf> (2015, 2017).
- J. Bien, F. Bunea and L. Xiao, Convex banding of the covariance matrix, **Journal of American Statistical Association**, Volume 111, 834-845, 2016.
- J. Das, K.M. Gayvert, F. Bunea, M. Wegkamp and H. Yu: *ENCAPP: elastic-net-based prognosis prediction and biomarker discovery for human cancers*, **BMC Genomics**, Vol 16, 2015.
- Florentina Bunea and Luo Xiao, On the sample covariance matrix estimator of reduced effective rank population matrices, with applications to fPCA, **Bernoulli**, Volume 21, 1200-1230, 2015.
- L. Xiao and F. Bunea: On the theoretical and practical merits of the banding estimator for large covariance matrices, <http://arxiv.org/abs/1402.0844>, **EJS** (2014).
- Florentina Bunea, Johannes Lederer and Yiyuan She, The Group Square-Root Lasso: Theoretical Properties and Fast Algorithms, **IEEE-Information Theory**, Vol 60, pages 1313 - 1325, (2014)
- Edited volume. *From Probability to Statistics and Back: High-Dimensional Models and Processes, A Festschrift in Honor of Jon Wellner*; **IMS Collections**, Volume 9, 2012, Banerjee, M., Bunea, F., Huang, J., Koltchinskii, V., and Maathuis, M. H., Editors
- Florentina Bunea, Yiyuan She and Marten Wegkamp *Joint variable and rank selection for parsimonious estimation of high dimensional matrices*. **The Annals of Statistics**, Vol 40, 2359-2388, (2012).
- Florentina Bunea, Yiyuan She and Marten Wegkamp *Optimal selection of reduced rank estimators of high dimensional matrices*. **The Annals of Statistics**, Vol 39, 1282- 1309, (2011).
- Florentina Bunea, Andrada Ivanescu and Marten Wegkamp *Adaptive inference for the mean of a Gaussian process in functional data*. **J.R. Statist. Soc. B**, Vol 73 (4), 531 - 558, (2011).
- Florentina Bunea, Yiyuan She, Hernando Ombao et al. *Penalized Least Squares Regression Methods and Applications to Neuroimaging*. **NeuroImage**, Vol. 55, 1519 - 1527 (2011).
- Florentina Bunea, Alexandre Tsybakov, Marten Wegkamp and Adrian Barbu *SPADES and mixture models*, **The Annals of Statistics**, Vol 38, 2525 - 2558, (2010).

- Florentina Bunea and Adrian Barbu *Dimension reduction and variable selection in case-control studies via regularized likelihood optimization*, **Electronic Journal of Statistics**, Vol. 3, 1257 - 1287, ( 2009 )
- Florentina Bunea *Honest variable selection in linear and logistic regression models via  $\ell_1$  and  $\ell_1 + \ell_2$  penalization*, **Electronic Journal of Statistics**, Vol 2, pp 1153 - 1194, (2008).
- Florentina Bunea and Andrew Nobel *Online prediction algorithms for aggregation of arbitrary estimators of a conditional mean*. **IEEE Transactions on Information Theory**, Vol 54 (4), pp 1725 - 1735, (2008).
- Florentina Bunea *Consistent selection via the Lasso for high dimensional approximating models*. **IMS Lecture Notes-Monograph Series**, Vol 123, pp. 123 - 137, (2008).
- Florentina Bunea, Alexandre Tsybakov and Marten Wegkamp *Sparsity oracle inequalities for the lasso*. **Electronic Journal of Statistics**, pp. 169 - 194, (2007).
- Florentina Bunea, Alexandre Tsybakov and Marten Wegkamp *Sparse density estimation with  $l_1$  penalties*. Annual Conference on Learning Theory, **COLT: Lecture Notes in Artificial Intelligence**, pp. 530 - 544, Springer, (2007).
- Florentina Bunea, Alexandre Tsybakov and Marten Wegkamp *Aggregation for Gaussian regression*. **Annals of Statistics**, Vol 35, 1674 - 1697, (2007).
- Florentina Bunea, Alexandre Tsybakov and Marten Wegkamp *Aggregation and sparsity via  $l_1$  penalized least squares*. **COLT: Lecture Notes in Artificial Intelligence**, Springer, pp. 379 - 391, (2006).
- Florentina Bunea, Marten Wegkamp and Anna Auguste *Consistent covariate selection in high dimensional regression via multiple testing*. **Journal of Statistical Planning and Inference**, Elsevier, Vol 136, pp 4349-4364, (2006).
- Florentina Bunea, Hernando Ombao and Anna Auguste *Minimax adaptive spectral estimation from an ensemble of signals*. **IEEE Transactions on Signal Processing**, Vol. 54, pp. 2865 - 2874, (2006).
- Gerard Biau, Florentina Bunea and Marten Wegkamp *Function Classification in Hilbert Spaces*. **IEEE Transactions on Information Theory**, Vol. 51, pp 2163 - 2172, (2005).
- Florentina Bunea and Ian McKeague *Covariate selection for semiparametric hazard function regression models*. **The Journal of Multivariate Analysis**, Vol. 92, pp. 186 - 204, (2005).

- Florentina Bunea *Consistent covariate selection and postmodel selection inference in semi-parametric regression*. **The Annals of Statistics**, Vol. 32, No. 3, pp. 898 - 927, (2004).
- Florentina Bunea and Marten Wegkamp *Two-stage model selection procedures in partially linear regression*. **The Canadian Journal of Statistics**, Vol. 32, pp. 105 - 118, (2004).
- Florentina Bunea and Marten Wegkamp. *A Note on Penalized Minimum Distance Estimation in Nonparametric Regression*. **The Canadian Journal of Statistics**, Vol. 31, No 3, pp. 267-274, (2003).
- Florentina Bunea and Julian Besag *Markov Chain Monte Carlo in  $I \times J \times K$  contingency tables*, **Fields Institute Communications**, AMS, Providence, Rhode Island. Vol. 26, pp. 25 - 36, (2000).
- Florentina Bunea *Geometrical restrictions in self deconvolution*, The Annals of University of Bucharest, Mathematics and Informatics Series, Vol. 44, pp. 41-50, (1995).

#### Invited conference session organizer

- Invited chair and organizer of the session "High Dimensional Data Inference" IMS/Bernoulli World Congress of Probability and Statistics, Seoul, South Korea, 2021.
- Invited chair and organizer of the session "High Dimensional Inference in Structured Models", the European Meeting of Statisticians, Palermo, Italy, 2019.
- Invited chair and organizer of the session "Model selection in high dimensions", 9th World Congress of Probability and Statistics, Fields Institute, Toronto, July 11-15, 2016.
- Invited chair and organizer of the session "New directions in big data theory", 3rd conference of the International Society for Non-Parametric Statistics (ISNPS), Avignon, France 11-16 June 2016.
- Invited chair and organizer of the session "High-Dimensional Inference", the European Meeting of Statisticians, Amsterdam, 2015.
- Invited chair and organizer of the session "High-Dimensional Statistical Inference for Matrix Models", at WNAR, Colorado, June 2012.
- Invited chair and organizer of the session "High dimensional inference and matrix models", at the 1st conference of the International Society for Non-Parametric Statistics, Greece, June 2012.
- Program committee member and chair of the "Machine Learning" session for SRCOS (Southern Regional Conference on Statistics), Norfolk, Virginia, June 2010.

- Invited chair and organizer of the session "Recent results in theoretical machine learning" at the eighth ICSA International Conference: Frontiers of Interdisciplinary and Methodological Statistical Research, Guangzhou University, China, Dec 2010.
- Invited chair and organizer of the invited IMS session "Advances in Statistical Aggregation" at the Joint Statistical Meeting, Salt Lake City, August 2007.
- Invited chair and organizer of the invited IMS session "Semiparametric Inference in Practice" at the Joint Statistical Meeting, Seattle, August 2006.
- Invited chair and organizer of the invited IMS session "Aggregation in non-parametric models" at the Joint Statistical Meeting in Minneapolis, August 2005.

### **Invited conference and workshop talks**

- Data Science and Dependence, July 2023, The International Academic Forum, Heidelberg, Germany.
- Workshop on Statistical Network Analysis and Beyond, Alaska, June 2023.
- Annual Conference of the International Indian Statistical Association (IISA2023), Colorado, June 2023 (Special Invited Talk)
- Princeton University, Statistical Foundations of Data Science and their Applications, May 2023.
- Sampling, Transport, and Diffusions, Flatiron Institute, NYC, November 2022.
- The Joint Statistical Meeting, IMS invited sessions, Washington DC, August 2022.
- The Institute of Mathematical Statistics annual meeting, London, UK, June 2022.
- Mathematical Methods of Modern Statistics 3, Marseille, France, June 2022.
- Statistics in the Big Data Era, the Simons Institute, June 2022.
- Oberwolfach meeting on "Re-thinking high-dimensional statistical inference", Oberwolfach, Germany, May 2022.
- The ICSA Applied Statistics Symposium, September 2021 (Virtual).
- The Joint Statistical Meeting, IMS invited sessions, Seattle, August 2021(Virtual).
- Oberwolfach meeting on Mathematical Foundations of Machine Learning, March 2021. (Virtual/Hybrid)
- Mathematical Methods of Modern Statistics 2, Marseille, France, June 2020 (virtual).
- Fourth Workshop on High Dimensional Asymptotics and Post-Selection Inference, St. Louis, August, 2019.
- Workshop on Machine Learning and Data Science, Columbia University, June 2019.
- Oberwolfach meeting on Statistical and Computational Aspects of Learning with Complex Structure, May 2019

- Joint Statistical Meeting, Vancouver, 2018.
- Isaac Newton Institute workshop: Future challenges in statistical scalability, Cambridge, UK, June 2018.
- Oberwolfach workshop Matrix estimation meets network analysis, Germany, June 2018.
- International workshop on New Aspects of Statistics, Financial Econometrics and Data Science, University of Chicago, May 2018.
- Oberwolfach workshop on Statistical Inference for Structured High-dimensional Models, Germany, March 2018.
- Meeting in Mathematical Statistics, Marseilles, France, 2017.
- Second Workshop on High Dimensional Asymptotics and Post-Selection Inference, St. Louis, 2017.
- Joint Statistical Meeting, Baltimore, 2017.
- Conference on Foundations of Computational Mathematics, Barcelona, Spain, 2017.
- Meeting in Mathematical Statistics: Advances in nonparametric and high-dimensional Statistics, Fréjus, France, 2016.
- Workshop on High Dimensional Asymptotics and Post-Selection Inference, St. Louis, 2016.
- New Researchers Pre-meeting of the IMS/Bernoulli World Congress for Probability and Statistics, Toronto, 2016, Plenary speaker.
- Theory of Big Data 2, London, January 2016, Plenary speaker.
- JSM, Seattle, August 2015.
- Oberwolfach Workshop, Probabilistic Techniques in Modern Statistics, Oberwolfach, Germany, May 2015.
- American Institute of Mathematics (AIM), Palo Alto, CA, Workshop on Inference in high dimensional regression, 2015.
- Joint Statistical Meeting, Boston, August 2014.
- Dimension Reduction and High Dimensional Inference Workshop, University of Florida, 2014.
- International Symposium on Business and Industrial Statistics/Conference of the ASA Section on Statistical Learning and Data Mining, Durham, June 2014.
- Oberwolfach Workshop, Adaptive Statistical Inference, Oberwolfach, Germany, March 2014.
- 3rd Princeton Day of Statistics Workshop, Oct. 19, 2012.
- International Chinese Statistics Association Applied Statistics Symposium, Boston, June 2012, Simultaneous variable and rank selection for optimal estimation of high dimensional matrices.

- High-dimensional problems in statistics workshop, ETH, Zurich, Switzerland, September 2011, *Simultaneous variable and rank selection for optimal estimation of high dimensional matrices*.
- Instantaneous Frequencies and Trends for Nonstationary Nonlinear Data, IMA, Minneapolis, September 2011, *Simultaneous variable and rank selection for optimal estimation of high dimensional matrices*.
- Sparse Statistics, Optimization and Machine Learning BIRS Workshop, Banff, Canada, January 2011, *Optimal selection of reduced rank estimators of high dimensional matrices*.
- The Applied Statistics Symposium of the International Chinese Statistical Association, Indianapolis, June 2010, *Adaptive Rank Penalized Estimators in Multivariate Regression*.
- Conference on Resampling Methods and High Dimensional Data, College Station, Texas, March 2010. *Optimal dimension reduction in high dimensional matrix models via the Rank Selection Criterion*.
- Sparsity in high dimensions conference, The Mathematical Institute at Oberwolfach, Germany, March 2009, *Model selection and sparsity in case control studies*.
- Understanding the New Statistics: Expanding Core Statistical Theory, Banff, Canada, September 2008. *Honest variable selection*.
- International Workshop on Sparsity in High Dimensional Statistics and Learning Theory, March 2008, Georgia Institute of Technology, Atlanta. *On  $\ell_1$  regularization in functional data and binary response regression models*.
- The Isaac Newton Institute, Cambridge University, UK, Programme on Statistical Theory and Methods for Complex, High-Dimensional Data, May 2008. *Non-asymptotic variable selection*.
- The Joint Statistical Meeting, the Institute of Mathematical Statistics section, Salt Lake City, August 2007. *Sparse oracle inequalities for the Lasso*.
- The Annual Conference on Learning Theory (COLT), San Diego, June 2007. *Identifying components in sparse mixtures: the Spades estimator*.
- Statistical and Probabilistic Methods in Model Selection, The Mathematical Institute at Oberwolfach, Germany, October 2005. *On-line prediction algorithms in aggregation*.
- Kickoff Workshop of the SAMSI program on High Dimensional Inference and Random Matrices, September 2006.
- The Joint Statistical Meeting, the Institute of Mathematical Statistics Section, Seattle, August 2006.
- The Joint Statistical Meeting, the Institute of Mathematical Statistics section, Minneapolis, August 2005. *Aggregation for regression learning*.
- SRCOS/ASA Summer Research Conference, Virginia Tech, June 2004. *Oracle inequalities in aggregation*.
- International Workshop on Applied Probability, Greece, March 2004. *One and multiple-sample aggregation in nonparametric regression models*.

- New Researchers Conference, Davis, CA, July 2003. *Consistent model selection via the FDR procedure.*
- Nonparametrics Research Conference, Tallahassee, FL, January 2003. *The consistency of the FDR procedure with applications to semiparametric models.*
- International conference on current advances and trends in nonparametric statistics, Crete, July 2002. *Post model selection inference in semiparametric regression models.*
- IMS meeting in Guanajuato, Mexico, 2000. *Partially linear regression.*
- SIAM Annual Meeting, Atlanta, 1999. *MCMC for multi-dimensional contingency tables.*

### **Invited Individual Seminars**

- *Italy:* University of Rome, Italy, Dept. of Mathematics, July 2022.
- *Germany:* Technical University of Munich, Department of Mathematics, May 2022.
- *Canada:* University of Toronto (2002), University of British Columbia (2000).
- *France:* Université de Paris VI and CREST (Paris, 2009), Université de Paris VI (Paris, 2003), ENSAI (Rennes, 2001), L’Institut Henri Poincaré (Paris, 2001).
- *United Kingdom:* Bath University (2001), Newton Institute, Programme on Statistical Theory and Methods for Complex High-dimensional Data, Cambridge (2008).
- *Switzerland:* The Swiss Institute of Technology (ETH), Zurich (2008).
- *USA*  
 2022: Columbia University; Princeton University; University of Chicago Booth.  
 2021: University of Michigan, NYU (Curren Institute), Cornell Tech., Cornell-Ithaca.  
 2019: University of Washington, Temple University, Harvard University.  
 2017: Columbia  
 2016: Princeton  
 2014: Brown  
 2010, 2012: Cornell University  
 2008: University of Chicago.  
 2007: Carnegie Mellon University, Johns Hopkins University, University of Minnesota, Rutgers University.  
 2006: Texas A & M University, North Carolina State University.  
 2005: University of Georgia, University of Illinois at Urbana-Champaign.  
 2004: The Pennsylvania State University, Duke University.  
 2002: University of Florida.  
 2000/2001: Yale University, University of Pennsylvania, Stanford University, University of British Columbia.

### **Ph.D. Student supervision**

Former Ph. D. students: Anna Auguste, Andrada Ivanescu, Shuva Gupta, Jennifer Geis, Claudiu Dinicu, Martin Royer, Mike Bing, Seth Strimas-Mackey. Current Ph.D students: Suvadip Sana.

## Visiting post-docs

Johannes Lederer, 2013 (currently at the University of Bochum, Germany), Eugen Parcalabelu, 2019 (currently at Universite Louvaine La Neuve, Belgium), Merle Behr, 2019 (currently at Berkeley).

## Courses (Sample)

- Statistics through examples
- Introduction to Probability
- Mathematical Statistics
- Probability Models and Inference
- Probability and Measure
- Probability Theory
- Topics in Stochastic Processes
- Advanced Topics in Probability and Statistics: Statistical optimal transport for high dimensional mixtures
- Advanced Topics in Probability and Statistics: Model Selection
- Advanced Topics in Probability and Statistics: Semiparametric models and empirical processes
- Advanced Topics in Probability and Statistics: Aggregation in non-parametric models
- Advanced Topics in Probability and Statistics: Model selection and aggregation in high dimensions
- Advanced Topics in Probability and Statistics: Inference in large scale problems: vector and matrix models.