

CONTACT DETAILS	Stanford University Department of Statistics 390 Jane Stanford Way, Stanford, CA 94305, USA	Telephone: +1 (650) 656-0855 E-mail: ignat@stanford.edu Website: <a href="https://nignatiadis.github.io/">https://nignatiadis.github.io/</a> Google Scholar: user=KH3jpkoAAAAJ
RESEARCH INTERESTS	I am interested in the development of interpretable statistical methods, accompanied by robust software implementations, for the analysis of datasets generated from modern, high-throughput technologies. From a statistical perspective, this interest encompasses Empirical Bayes analysis, causal inference, multiple testing and statistics in the presence of contextual side-information.	
EDUCATION	<b>Stanford University</b> <ul style="list-style-type: none"> <li>• <b>Ph.D. in Statistics.</b> (GPA 4.24) Thesis advisor: Stefan Wager Thesis title: Nonparametric perspectives on empirical Bayes.</li> </ul>	Stanford, California, USA 09/2016 – 06/2022
	<b>Heidelberg University</b> <ul style="list-style-type: none"> <li>• <b>M.Sc. Scientific Computing</b>, Grade 1.0 Thesis advisors: Wolfgang Huber and Enno Mammen</li> <li>• <b>B.Sc. Mathematics</b>, Grade 1.0 with <i>distinction</i> Thesis advisors: Wolfgang Huber and Rainer Dahlhaus</li> <li>• <b>B.Sc. Molecular Biotechnology</b>, Grade 1.0</li> </ul>	Heidelberg, Germany 2015 - 2016 2011 - 2015 2010 - 2013
AWARDS AND FELLOWSHIPS	<b>Jerome H. Friedman Applied Statistics Dissertation Award</b> For developing methodology that uses side information for increased power in multiple testing problems and for developing approaches to inference in empirical Bayes problems. <b>Ric Weiland Graduate Fellowship in the Humanities &amp; Sciences</b> This fellowship is awarded to exceptional rising fourth year doctoral candidates in the humanities, social sciences, mathematics, and statistics upon departmental or programmatic nomination. <b>Departmental Teaching Assistant Award</b> , Statistics Department, Stanford <b>iGEM Grand Prize Winner &amp; Best Foundational Advance</b> The International Genetically Engineered Machine competition with Team Heidelberg at MIT. <b>Deutschlandstipendium</b> , Heidelberg University, Germany This scholarship is awarded to talented and high-achieving students at public and state recognised institutions of higher education in Germany and is supported by the German Federal Government. <b>Bronze medal at the International Biology Olympiad</b> , Changwon, South Korea	2022 2020 - 2021 2018 2013 2011 - 2013 2010
JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> <li>1. Ignatiadis, N. and Wager, S. (2021). <b>Confidence Intervals for Nonparametric Empirical Bayes Analysis.</b> Journal of the American Statistical Association, Theory &amp; Methods (forthcoming). <i>Selected as a <b>discussion paper</b> by the editors of JASA. The discussion will take place at JSM 2022.</i></li> <li>2. Ignatiadis, N., Saha, S., Sun D. L. and Muralidharan, O. (2021). <b>Empirical Bayes mean estimation with nonparametric errors via order statistic regression on replicated data.</b> Journal of the American Statistical Association, Theory &amp; Methods (forthcoming).</li> <li>3. Ignatiadis, N. and Huber, W. (2021). <b>Covariate powered cross-weighted multiple testing.</b> Journal of the Royal Statistical Society: Series B, 83, 720-751.</li> <li>4. Karacosta, L. G., Anchang, B., Ignatiadis, N., Kimmey, S.C., Benson, J.A., Shrager, J.B., Tibshirani, R., Bendall, S.C. and Plevritis, S.K. (2019). <b>Mapping lung cancer epithelial-mesenchymal transition states and trajectories with single-cell resolution.</b> Nature Communications, 1010, 5887.</li> <li>5. Ignatiadis, N., Klaus, B., Zaugg, J. B. and Huber, W. (2016). <b>Data-driven hypothesis weighting increases detection power in genome-scale multiple testing.</b> Nature Methods, 13(7), 577-580.</li> <li>6. Beer, R., Herbst, K., Ignatiadis, N., Kats, I., <i>et al.</i> (2014). <b>Creating functional engineered variants of the single-module non-ribosomal peptide synthetase IndC by T domain exchange.</b> Molecular BioSystems, 10(7), 1709-1718.</li> </ol>	

CONFERENCE PROCEEDINGS	7. Ignatiadis, N. and Wager, S. (2019). <b>Covariate-Powered Empirical Bayes Estimation.</b> Advances in Neural Information Processing Systems 32 (NeurIPS 2019).	
PREPRINTS	8. Eckles, D., Ignatiadis, N. (corresponding author), Wager, S. and Wu, H. (2022). <b>Noise-Induced Randomization in Regression Discontinuity Designs.</b> Working paper. 9. Ignatiadis, N. and Lolas, P. (2021). <b><math>\sigma</math>-Ridge: group-regularized ridge regression via empirical Bayes noise level cross-validation.</b> Working paper.	
INVITED DISCUSSIONS	<b>International Seminar on Selective Inference (ISSI)</b> Discussant of the talk ‘Clipper: p-value-free FDR control on high-throughput data from two conditions’ by Prof. Jingyi Jessica Li.	December 2020
SOFTWARE	<b>R packages</b> in Bioconductor: <ul style="list-style-type: none"> <li>• <a href="#">IHW</a>: Independent Hypothesis Weighting for multiple testing with side-information.</li> <li>• <a href="#">IHWpaper</a>: Companion to the IHW package facilitating reproducibility.</li> </ul> <b>Julia packages</b> in the official registry: <ul style="list-style-type: none"> <li>• <a href="#">Aurora.jl</a>: Empirical Bayes mean estimation with nonparametric errors on replicated data.</li> <li>• <a href="#">Empirikos.jl</a>: Nonparametric empirical Bayes confidence intervals.</li> <li>• <a href="#">RegressionDiscontinuity.jl</a>: Basic functionality for analyzing sharp regression discontinuity designs.</li> <li>• <a href="#">SigmaRidgeRegression.jl</a>: <math>\sigma</math>-Ridge for regression with features that can be partitioned into groups.</li> <li>• <a href="#">SmoothingSplines.jl</a>: Nonparametric regression using smoothing splines.</li> <li>• Contributions to <a href="#">Distributions.jl</a>, <a href="#">GLM.jl</a>, <a href="#">Lasso.jl</a>, <a href="#">MultipleTesting.jl</a> and others.</li> </ul>	
INDUSTRY EXPERIENCE	<b>Google AdsMetrics</b> , Mountain View, USA Data science intern with Omkar Muralidharan, Sujayam Saha and Dennis L. Sun.	Summer 2019
RESEARCH APPOINTMENTS	<b>Biomedical Informatics</b> , Stanford, California, USA Research assistant in the group of Prof. Nigam Shah funded by the NHLBI R01 grant ‘Applying statistical learning tools to personalize cardiovascular treatment’. <b>Statistics Department</b> , Stanford, California, USA Research assistant with Prof. Stefan Wager working on empirical Bayes and causal inference problems. <b>European Molecular Biology Laboratory</b> , Heidelberg, Germany Research assistant in the group of Dr. Wolfgang Huber.	2021 - Present  2017 - 2021  2014 - 2016
TALKS AND PRESENTATIONS	<b>Confidence Intervals for Nonparametric Empirical Bayes Analysis.</b> CMStatistics: Advances in empirical Bayes methodology Virtual presentation <b>Noise-Induced Randomization in Regression Discontinuity Designs.</b> Fourth Annual Berkeley-Stanford Econometrics Jamboree UC Berkeley, California, USA <b>Noise-Induced Randomization in Regression Discontinuity Designs.</b> Causal Science Conference Stanford University, California, USA <b>Noise-Induced Randomization in Regression Discontinuity Designs.</b> Joint Statistical Meetings (JSM): Causal Inference When Resources Are Limited Virtual presentation <b><math>\sigma</math>-Ridge: group regularized ridge regression via empirical Bayes noise level cross-validation.</b> Statistics seminar at Vrije Universiteit (VU) Amsterdam campus Virtual presentation <b>Confidence Intervals for Nonparametric Empirical Bayes Analysis.</b> International Seminar on Selective Inference (ISSI) Virtual presentation <b>Bias-Aware Confidence Intervals for Empirical Bayes Analysis.</b> Joint Statistical Meetings (JSM): Causality in Statistical Data Science	December 2021   November 2021  November 2021  August 2021  April 2021  April 2021  August 2020

	Virtual presentation	
	<b>Covariate-Powered Empirical Bayes Estimation.</b>	January 2020
	Blue seminar at the European Molecular Biology Laboratory	
	European Molecular Biology Laboratory (EMBL), Heidelberg, Germany	
	<b>Covariate-Powered Empirical Bayes Estimation.</b>	December 2019
	11th International Conference on Multiple Comparison Procedures	
	National Taiwan University (NTU), Taipei, Taiwan	
	<b>Bias-Aware Confidence Intervals for Empirical Bayes Estimation.</b>	May 2019
	Atlantic Causal Inference Conference (ACIC)	
	McGill University, Montreal, Canada	
	<b>Covariate powered cross-weighted multiple testing.</b>	February 2019
	Statistics Industrial Affiliates Conference	
	Stanford University, California, USA	
	<b>Covariate-powered cross-weighted multiple testing with FDR Control.</b>	February 2018
	Workshop: Post-selection Inference and Multiple Testing	
	Institut de Mathématiques de Toulouse, Toulouse, France	
	<b>MultipleTesting.jl: Simultaneous Statistical Inference in Julia.</b>	June 2017
	Lightning talk at JuliaCon	
	UC Berkeley, California, USA	
	<b>Data-driven hypothesis weighting increases detection power in genome-scale multiple testing.</b>	July 2016
	Genome Biology Seminar at the European Molecular Biology Laboratory	
	European Molecular Biology Laboratory (EMBL), Heidelberg, Germany	
TEACHING	<b>Instructor</b> at Stanford	
	STATS 302: Applied Statistics Ph.D. Qualifying Exam Workshop.	Summer 2020
	<b>Teaching Assistant (TA)</b> at Stanford	
	STATS 315B: Modern Applied Statistics: Data Mining.	Spring 2021
	STATS 361: Causal Inference.	Spring 2020
	STATS 305B: Applied Statistics II.	Winter 2020
	STATS 315A: Modern Applied Statistics: Learning.	Winter 2019
	STATS 300A: Theory of Statistics I.	Fall 2018
	STATS 366 (BIOS 221): Modern Statistics for Modern Biology.	Summer 2017 & 2018, Fall 2019
	STATS 218: Introduction to Stochastic Processes II.	Spring 2018
	STATS 290: Computing for Data Science.	Winter 2018
	STATS 305A: Introduction to Statistical Modeling.	Fall 2017
	STATS 191: Introduction to Applied Statistics.	Winter 2017
	STATS 141 (BIOS 141): Biostatistics.	Fall 2016
	<b>Trainer</b> at EMBL (European Molecular Biology Laboratory)	
	Introductory Course: Statistical Bioinformatics using R and Bioconductor	October 2015
PEER REVIEW	<b>Statistics journals</b>	
	Annals of Statistics (AoS), Bernoulli, Biometrics, Biometrika, Electronic Journal of Statistics (EJS), Journal of the American Statistical Association (JASA), Journal of Business & Economic Statistics (JBES), Journal of Causal Inference (JCI), Journal of Computational and Graphical Statistics (JCGS), Journal of Statistical Software (JSS), Statistical Papers, Statistical Science	
	<b>Other journals</b>	
	Bioinformatics, Bioinformatics Advances, Heliyon, Journal of Cell Science, Management Science, Operations Research, PeerJ	
	<b>Conferences</b>	
	AISTATS (2021), NeurIPS (2021, 2022), ICLR (2022)	