Nikolaos Ignatiadis - CV

CONTACT DETAILS — Stanford University
Department of Statistics
390 Serra Mall,
Stanford, CA 94305, U.S.A.

Telephone: +1 (650) 656-0855
E-mail: ignat@stanford.edu
Website: https://nignatiadis.github.io/
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 multiple testing and Empirical Bayes inference in the presence of contextual side-information.

EDUCATION

Stanford University — Stanford, California, U.S.A.

Ph.D. in Statistics. (GPA 4.2+) — 09/2016 – present
Successful completion of qualifying exams.
Thesis Advisor: Stefan Wager

Heidelberg University — Heidelberg, Germany
- **M.Sc. Scientific Computing**, Grade 1.0 — 2015 - 2016
- **B.Sc. Mathematics**, Grade 1.0 with *distinction* — 2011 - 2015
- **B.Sc. Molecular Biotechnology**, Grade 1.0 — 2010 - 2013

The American College of Greece — Athens, Greece

Lykio with Apolytirio Eniaiou Lykiou — 2010
Valedictorian

PREPRINTS

1. Ignatiadis, N. and Wager, S. (2019). **Covariate-Powered Empirical Bayes Estimation.** arXiv:1906.01611. Accepted at NeurIPS 2019, Vancouver, Canada.
2. Ignatiadis, N. and Wager, S. (2019). **Bias-Aware Confidence Intervals for Empirical Bayes Analysis.** arXiv:1902.02774.
3. Karacosta, L. G., Anchang, B., Ignatiadis, N., *et al.* (2019). **Mapping Lung Cancer Epithelial-Mesenchymal Transition States and Trajectories with Single-Cell Resolution.** bioRxiv:570341.
4. Ignatiadis, N. and Huber, W. (2018). **Covariate powered cross-weighted multiple testing.** arXiv:1701.05179.

PUBLICATIONS

5. Ignatiadis, N., Klaus, B., Zaugg, J. B. and Huber, W. (2016). **Data-driven hypothesis weighting increases detection power in genome-scale multiple testing. Nature methods**, 13(7), 577-580.
6. Beer, R., Herbst, K., Ignatiadis, N., Kats, I., *et al.* (2014). **Creating functional engineered variants of the single-module non-ribosomal peptide synthetase IndC by T domain exchange. Molecular BioSystems**, 10(7), 1709-1718.

TALKS AND PRESENTATIONS

1. **Atlantic Causal Inference Conference** — May 2019
McGill University, Montreal, Canada
Invited talk – Bias-Aware Confidence Intervals for Empirical Bayes Estimation
2. **Statistics Industrial Affiliates Conference** — February 2019
Stanford University, California, USA
Contributed talk – Covariate powered cross-weighted multiple testing.
3. **Workshop: Post-selection Inference and Multiple Testing** — February 2018
Institut de Mathématiques de Toulouse, France
Invited talk – Covariate-powered cross-weighted multiple testing with FDR Control
4. **JuliaCon**, Berkeley (http://www.youtube.com/watch?v=R8NEfWZAVmw) — June 2017
Lightning talk – MultipleTesting.jl: Simultaneous Statistical Inference in Julia
5. **International Symposium on Synthetic Biology** — December 2013
German Cancer Research Center, Heidelberg, Germany
Presentation about Team Heidelberg's iGEM project

| INTERNSHIPS | **Data science intern** at Google AdsMetrics, Mountain View, USA | Summer 2019 |

Data science intern at Google AdsMetrics, Mountain View, USA — Summer 2019
I developed an automated empirical Bayes method that estimates means by instead solving a supervised prediction problem and applied the method to predict changes in cost-per-click and click-through-rate for each advertiser in a large-scale experiment.

TEACHING

Teaching Assistant (TA) at Stanford

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
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

Trainer

Introductory Course: Statistical Bioinformatics using R and Bioconductor — October 2015
EMBL (European Molecular Biology Laboratory), Heidelberg, Germany

PROFESSIONAL SERVICE

Peer review
Annals of Statistics, Bioinformatics, PeerJ (`https://publons.com/author/1470395`)

SCHOLARSHIPS

Deutschlandstipendium — 2011-2013
A scholarship for talented and high-achieving students at public and state recognised institutions of higher education in Germany supported by the German Federal Government.

AWARDS AND HONORS

Departmental Teaching Assistant Award, Statistics Department, Stanford — June 2018

Grand Prize Winner & Best Foundational Advance in the **iGEM** — November 2013
(international Genetically Engineered Machine) competition with Team Heidelberg, MIT.

Bronze medal in the International Biology Olympiad (**IBO**), Changwon, South Korea. — July 2010

Rank 3 in the 6th National Biology Competition, Greece. — May 2010

Rank 8 in the 8th European Competition of the Ancient Greek language. — June 2009

LANGUAGES

English (Fluent), **German** (Native), **Greek** (Native)

PROGRAMMING LANGUAGES

R, **Julia**, Python, C

OPEN-SOURCE SOFTWARE

IHW (`http://bioconductor.org/packages/IHW`)
A R/Bioconductor package implementing the Independent Hypothesis Weighting method.
IHWpaper (`http://bioconductor.org/packages/devel/data/experiment/html/IHWpaper.html`)
A package reproducing all analyses for the Independent Hypothesis Weighting publications.
SmoothingSplines.jl (`https://github.com/nignatiadis/SmoothingSplines.jl`)
A statistical package for nonparametric regression via Smoothing Splines in Julia.