

Stanford



Julia Palacios

Assistant Professor of Statistics and of Biomedical Data Science

Bio

BIO

Dr. Palacios seek to provide statistically rigorous answers to concrete, data driven questions in evolutionary genetics and public health . My research involves probabilistic modeling of evolutionary forces and the development of computationally tractable methods that are applicable to big data problems. Past and current research relies heavily on the theory of stochastic processes, Bayesian nonparametrics and recent developments in machine learning and statistical theory for big data.

ACADEMIC APPOINTMENTS

- Assistant Professor, Statistics
- Assistant Professor, Biomedical Data Science
- Member, Bio-X

HONORS AND AWARDS

- Frederick E. Terman Fellow 2017, Stanford University (2017-2019)
- Alfred P. Sloan Research Fellowship 2018, Sloan Foundation (2018-2020)

PROFESSIONAL EDUCATION

- Ph.D, University of Washington , Statistics (2013)

Teaching

COURSES

2020-21

- Workshop in Biostatistics: BIODS 260C, STATS 260C (Spr)

2019-20

- Introduction to Statistical Inference: STATS 200 (Win)
- Workshop in Biostatistics: BIODS 260A, STATS 260A (Aut)

2018-19

- Introduction to Statistical Inference: STATS 200 (Win)
- Statistical Models in Biology: STATS 215 (Spr)
- Workshop in Biostatistics: BIODS 260A, STATS 260A (Aut)

2017-18

- Introduction to Statistical Modeling: STATS 305A (Aut)
- Statistical Models in Genetics: STATS 367 (Win)
- Workshop in Biostatistics: BIODS 260A, STATS 260A (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Margaret Antonio, Alissa Severson, Michael Sklar

Orals Chair

Hannah Moots

Postdoctoral Faculty Sponsor

Lorenzo Cappello

Postdoctoral Research Mentor

Lorenzo Cappello

Publications

PUBLICATIONS

- **SEQUENTIAL IMPORTANCE SAMPLING FOR MULTIREOLUTION KINGMAN-TAJIMA COALESCENT COUNTING** *ANNALS OF APPLIED STATISTICS*
Cappello, L., Palacios, J. A.
2020; 14 (2): 727–51
- **Discussion on "Horseshoe-based Bayesian nonparametric estimation of effective population size trajectories"** by James R. Faulkner, Andrew F. Magee, Beth Shapiro, and Vladimir N. Minin. *Biometrics*
Cappello, L., Ghosh, S., Palacios, J. A.
2020
- **Bayesian Estimation of Population Size Changes by Sampling Tajima's Trees.** *Genetics*
Palacios, J. A., Véber, A., Cappello, L., Wang, Z., Wakeley, J., Ramachandran, S.
2019
- **Exact limits of inference in coalescent models.** *Theoretical population biology*
Johndrow, J. E., Palacios, J. A.
2018
- **No Evidence for Recent Selection at FOXP2 among Diverse Human Populations** *CELL*
Atkinson, E., Audesse, A., Palacios, J., Bobo, D., Webb, A., Ramachandran, S., Henn, B.
2018; 174 (6): 1424–+
- **PHYLODYN: an R package for phylodynamic simulation and inference** *MOLECULAR ECOLOGY RESOURCES*
Karcher, M. D., Palacios, J. A., Lan, S., Minin, V. N.
2017; 17 (1): 96–100
- **phyloDYN: an R package for phylodynamic simulation and inference.** *Molecular ecology resources*
Karcher, M. D., Palacios, J. A., Lan, S., Minin, V. N.
2016
- **Quantifying and Mitigating the Effect of Preferential Sampling on Phylodynamic Inference.** *PLoS computational biology*
Karcher, M. D., Palacios, J. A., Bedford, T., Suchard, M. A., Minin, V. N.
2016; 12 (3)
- **An efficient Bayesian inference framework for coalescent-based nonparametric phylodynamics** *BIOINFORMATICS*
Lan, S., Palacios, J. A., Karcher, M., Minin, V. N., Shahbaba, B.

2015; 31 (20): 3282-3289

● **Bayesian Nonparametric Inference of Population Size Changes from Sequential Genealogies** *GENETICS*

Palacios, J. A., Wakeley, J., Ramachandran, S.

2015; 201 (1): 281-?

● **Phylogeography of the Trans-Volcanic bunchgrass lizard (*Sceloporus bicanthalis*) across the highlands of south-eastern Mexico** *BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY*

Leache, A. D., Palacios, J. A., Minin, V. N., Bryson, R. W.

2013; 110 (4): 852-865

● **Gaussian Process-Based Bayesian Nonparametric Inference of Population Size Trajectories from Gene Genealogies** *BIOMETRICS*

Palacios, J. A., Minin, V. N.

2013; 69 (1): 8-18