JOELLE MBATCHOU

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CAREER OBJECTIVE

To be a part of a challenging, collaborative, and innovative work environment where I can make valuable contributions and continuously improve my knowledge and skills.

EDUCATION

University of Chicago, Department of Statistics, Chicago IL — June 2019
Ph.D. Statistics
Dissertation Title: Assessments of Significance for Genetic Association Analysis in Structured Samples
Department of Education GAANN Fellowship Recipient
Relevant Coursework: Applied Linear Statistical Methods, Generalized Linear Models, Applied Longitudinal Data Analysis, Data Mining, Applied Survival Analysis, Mathematical Statistics, Design/Analysis of Experiments, Statistical Genetics, Distribution Theory, Stochastic Processes, Sample Surveys

DePaul University, Chicago IL — June 2011
Bachelor of Science in Biology (conc. Cell & Molecular Biology) & Mathematical Sciences (conc. Statistics)
Summa Cum Laude

RESEARCH EXPERIENCE

University of Chicago, Department of Statistics, Chicago IL — Oct 2013 – June 2019
Graduate Student with Dr. Mary Sara McPeek
- Designed a fast method to assess significance for a general class of association tests, including tests for high dimensional traits, in samples with population structure and/or related individuals
- Developed a permutation-based testing procedure for binary trait analysis that adjusts for genetic relatedness in the sample

DePaul University, Chicago IL — Jan 2010 – Jun 2011
Research Assistant with Dr. Windsor Aguirre's Lab
- Developed AFLP markers to study genetic differentiation of Ecuadorian fishes

Harvard Medical School, Boston MA — Jun 2010 – Aug 2010
Summer Research Assistant with Dr. Ulrike Eggert's Lab
- Used FRET technique and small molecules to analyze the Rho pathway during cytokinesis

TEACHING & LEADERSHIP EXPERIENCE

University of Chicago, Department of Statistics, Chicago IL
Statistical Consultant, Team Leader — Sep 2013 – September 2016
- Led a team of graduate students to tackle various projects proposed by other members of the university community (either graduate students, postdocs or faculty) across various departments
  - Project #1: Rhesus Monkeys Display Behavior – Generalized Linear Models
  - Project #2: Investigating Wealth of Russian Oligarchs – Linear mixed models
  - Project #3: Influence of Ottoman Empire on Corruption in Romania – Kriging, Regression trees

Teaching Assistant — Jun 2011 – June 2019
- Assisted in undergraduate courses: Statistical Methods and Applications, Statistical Models/Methods, Applied Regression Analysis and Analysis of Categorical Data
- Created introductory material for R and STATA through weekly computer sessions
- Organized weekly office hours where students expanded their understanding of course materials

Statistics Collaborative Learning Team Leader — Oct 2016 – Mar 2017
- Facilitated the design of a new program based on collaborative learning
- Created workshop exercises and managed weekly workshops where I assisted students on working in groups

Course Instructor — Mar 2014 – Jun 2014
- Taught an introductory course on statistical methods (STAT 234: Statistical Models/Methods)
- Designed course materials and delivered bi-weekly lectures to a class of 36 students
- Assisted students in office hours with learning statistical concepts as well as R programming skills

SKILLS

Computing: Proficient in R, C, LaTeX | Intermediate in STATA, Python, Microsoft Office & Tableau
Languages: Fluent in French (native) and English, Spanish (Intermediate) and beginner in Japanese and Korean

PUBLICATIONS

[1] **Mbatchou, J.**, Abney, M., and McPeek, M. S. Permutation methods for assessing significance in binary trait association mapping with structured samples. *bioRxiv*, page 451377, 2019.

[2] Jiang, D., **Mbatchou, J.**, and McPeek, M. S. Retrospective Association Analysis of Binary Traits: Overcoming Some Limitations of the Additive Polygenic Model. *Human Heredity*, 80(4):187–195, 2016.

[3] Nelsen, M. P., Lücking, R., **Mbatchou, J. S.**, Andrew, C. J., Spielmann, A. A., and Lumbsch, H. T. New insights into relationships of lichen-forming Dothideomycetes. *Fungal Diversity*, 51(1):155–162, 2011.

[4] Kharas, G. B., Hanawa, E., Hill, B. L., Flynn, K. T., Husain, H., **Mbatchou, J.**, Paik, W., Peters, A. L., Miguel, Y. S., Pacilli, M., and Others. Novel Copolymers of 4-Fluorostyrene. 8. Some Ring-Trisubstituted 2-Phenyl-1, 1-dicyanoethylenes. *Journal of Macromolecular Science, Part A*, 48(5):327–331, 2011.

[5] Nelsen, M. P., Lücking, R., Plata, E. R., and **Mbatchou, J. S.** Heiomasia, a new genus in the lichen-forming family Graphidaceae (Ascomycota: Lecanoromycetes: Ostropales) with disjunct distribution in Southeastern North America and Southeast Asia. *The Bryologist*, 113(4):742–751, 2010.

[6] Schoch, C. L., Crous, P. W., Groenewald, J. Z., Boehm, E. W., Burgess, T. I., de Gruyter, J., de Hoog, G. S., Dixon, L. J., Grube, M., Gueidan, C., Harada, Y., Hatakeyama, S., Hirayama, K., Hosoya, T., Huhndorf, S. M., Hyde, K. D., Jones, E. B., Kohlmeyer, J., Kruys, Å., Li, Y. M., Lücking, R., Lumbsch, H. T., Marvanová, L., **Mbatchou, J. S.**, McVay, A. H., Miller, A. N., Mugambi, G. K., Muggia, L., Nelsen, M. P., Nelson, P., Owensby, C. A., Phillips, A. J., Phongpaichit, S., Pointing, S. B., Pujade-Renaud, V., Raja, H. A., Plata, E. R., Robbertse, B., Ruibal, C., Sakayaroj, J., Sano, T., Selbmann, L., Shearer, C. A., Shirouzu, T., Slippers, B., Suetrong, S., Tanaka, K., Volkmann-Kohlmeyer, B., Wingfield, M. J., Wood, A. R., Woudenberg, J. H., Yonezawa, H., Zhang, Y., and Spatafora, J. W. A class-wide phylogenetic assessment of Dothideomycetes. *Studies in Mycology*, 64:1–15, 2009.

[7] Nelsen, M. P., Lücking, R., Grube, M., **Mbatchou, J. S.**, Muggia, L., Plata, E. R., and Lumbsch, H. T. Unravelling the phylogenetic relationships of lichenised fungi in Dothideomyceta. *Studies in Mycology*, 64:135–144, 2009.