

SOPHIE BREITBART

EDUCATION

2018
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present

University of Toronto

PhD in Ecology & Evolutionary Biology

📍 Toronto, Canada

- Thesis: Effects of Urbanization on the Evolutionary Ecology and Population Genetics of Common Milkweed
- Advisors: Drs. Marc Johnson & Helene Wagner

2012
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2016

Wesleyan University

BA in Biology, Certificate in Integrative Genomics Sciences

📍 Middletown, Connecticut

- Undergraduate researcher (2013-2016): Minnow biogeography and bacterial phylogeography

RESEARCH EXPERIENCE

2011
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2014

Graduate Research Assistant

Beijing Institute of Genomics, Chinese Academy of Sciences

📍 Beijing, China

- Performed computational biology research towards understanding regulation of alternative splicing in human and mouse transcriptome.
- Found EGFR pathway related mutations, aimed to understand the impacts of cancer mutations on EGFR signaling pathway.

2015
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2016

Bioinformatician

My Health Gene Technology Co., Ltd.

📍 Beijing, China

- Investigated how cancer cells spread to other parts of the body at the single cell level.

2016
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2018

Visiting Scientist

University of Alabama at Birmingham

📍 AL, USA

- Investigated the role of mitochondria in development of cancer.
- Investigated the evolution of genome architecture and its role in important evolutionary events.
- Detected thrombotic thrombocytopenic purpura related mutations in multiple patients' blood genome.

PROFESSIONAL EXPERIENCE

2014

Data Scientist, intern

SupStat Inc.

📍 Beijing, China

- Taught R language to beginners.
- Wrote Shiny app demos.
- Converted statistical tutorials from SPSS to R language.

CONTACT INFO

✉ sophie.breitbart@gmail.com

🏠 sbreitbart.github.io/

🐙 github.com/sbreitbart

in linkedin.com/in/sophiebreitbart

SKILLS

Languages & Frameworks: R

(including base, tidyverse, modelling, visualization), Github, Markdown, ShinyApps, Bash

Computing: SLURM, high-performance computing, git

Statistics: Linear models, mixed models, foundational statistics (e.g. ANOVA, etc).

Communication:

Project Management & Reproducibility:

2015
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2016

Bioinformatician

My Health Gene Technology Co., Ltd.

📍 Beijing, China

- Analyzed whole-exome sequencing data.
- Studied tumor metastasis and wrote research reports.
- Wrote analysis pipelines of ChIP-seq, single cell DNA-seq and single cell RNA-seq.
- Also did case studies to identify the genetic defect causing rare disease.

TEACHING EXPERIENCE

2014

Introduction to R Language for Beginners.

Instructor of R and Data Mining Training Courses at SupStat Inc.

📍 Beijing, China

2016
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2017

Computational Biology and Bioinformatics.

Teaching assistant of GBS CB2-201 courses at UAB

📍 AL, USA

SELECTED PUBLICATIONS AND POSTERS

2014

Genetic and epigenetic signals are found predictive to the distribution of intra-individual divergence of alternative splicing.

Poster for 2013 International Conference of Genomics

📍 Qingdao, China

Yu L, Chen B, Zhang Z.

2016

ESCRT-0 complex modulates Rbf mutant cell survival by regulating Rhomboid endosomal trafficking and EGFR signaling.

J Cell Sci. 2016 May 15;129(10):2075-84.

Sheng Z, Yu L, Zhang T, Pei X, Li X, Zhang Z and Du W.