

Randy Parrish

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EDUCATION

MSPH, Biostatistics Expected May 2021
Rollins School of Public Health (RSPH), Emory University | Atlanta, GA
GPA: 3.75 | Thesis: Improving gene expression imputation accuracy by model ensemble

BS, Biology (Cellular/Physiology Track) May 2019
BA, Mathematics May 2019
University of Louisville (UofL) | Louisville, KY
Minor: Global Public Health | *Cum Laude* | GPA: 3.71

TECHNICAL SKILLS

- R, Python, Bash, AWK, [SAS 9.4](#)
- Linux, HPC Cluster, Sun Grid Engine, parallel computing in R/Python, Docker, AWS
- MS Office, Zotero reference manager, \LaTeX , Bib \TeX

RESEARCH EXPERIENCE

Transcriptome-Integrated Genetic Association Resource ([TIGAR](#)) February 2020–Present
Dr. Jingjing Yang | *Emory University School of Medicine* | Atlanta, GA

- preparing/analyzing large multi-omics data in HPC cluster environment
- applying TIGAR tool to GTEx V8 data
- optimizing code to reduce memory consumption and execution time in all TIGAR Python scripts
 - gene expression model training time for TIGAR example data on 1 core reduced from 17+ minutes to <4 for all models

Modeling qPCR Curves August 2018–May 2019
Dr. Gary Cobbs | *UofL* | Louisville, KY

- modified and developed R code to model qPCR curves in order to predict initial absolute concentration of template DNA from raw fluorescence values
- investigated kinetics of primer/probe annealing, processivity in literature
- generated visualizations from model output using ggplot2

Mycobacteriophage Sub-Cluster Distribution & Correlations August 2012–May 2013
Dr. Claire Rinehart | *Western Kentucky University (WKU)* | Bowling Green, KY

- used **Mathematica** to analyze geographic distribution of phages and to generate visualizations
- assessed distribution of phage clusters and examined correlation between geographic distance and genetic distance within each cluster

Mycobacteriophage Isolation & Genome Annotation August 2011–May 2012
Dr. Rodney King & Dr. Claire Rinehart | *SEA-PHAGES @ WKU* | Bowling Green, KY

- isolated a unique mycobacteriophage from the environment
- annotated a section of the genome of a mycobacteriophage with results published in GenBank

RESEARCH OUTCOMES

Tang, S., **Parrish, R.**, Buchman, A. S., De Jager, P. L., Bennett, D. A., Epstein, M. P., Yang, J. (October, 2020). Powerful variance-component method for TWAS identifies novel and known risk genes for Alzheimer's dementia [Poster Presentation]. ASHG Virtual Meeting 2020.

Staples, A. K., King, R. A., Doughty, M. A., **Parrish, M. L.**, Klann, J. K., Rinehart, C. A., ... Hatfull, G. F. (2017). Mycobacterium phage TinaFeyge, complete genome [Direct Submission]. GenBank: KY471266.1. <http://www.ncbi.nlm.nih.gov/nuccore/KY471266.1>.

POSTER PRESENTATIONS

- Correlation of geographical distribution of mycobacteriophages with genomic clusters and genome distance May 2013
12th Annual UT-ORNL-KBRIN Bioinformatics Summit | Buchanan, TN
 Abstract: <https://doi.org/10.1186/1471-2105-14-S17-A8>
- Mycobacteriophage sub-cluster distribution and correlation to hydrologic regions November 2012
BISC and HPCC Research Symposium, WKU | Bowling Green, KY

EMPLOYMENT

- Research Assistant February 2020–Present
YangLab, Center for Computational and Quantitative Genetics, Emory University School of Medicine | Atlanta, GA
- Small Group Tutor for Biostatistics & Microbiology October 2016–April 2018
REACH Learning Resource Center, UofL | Louisville, KY
- Emergency Room Scribe May 2014–September 2014
Norton Healthcare & PhysAssist Scribes | Louisville, KY

PROFESSIONAL MEMBERSHIP

- American Society of Human Genetics August 2020–Present
 Graduate Student Member
 • Attended ASHG Virtual Meeting 2020
- American Statistical Association July 2017–Present
 Student Member | Member ID: 207482
 • Attended JSM 2017 conference in Baltimore, MD
 • Attended JSM 2018 conference in Vancouver, CA

COMMUNITY INVOLVEMENT

- Humanitarian Emergencies Research Team (HERT) October 2019–Present
 GEB Data Analysis and Visualizations Co-Lead | *RSPH, Emory University*
- Student Outbreak and Response Team (SORT) October 2019–Present
 Member | *RSPH, Emory University*
- Summer Institute in Biostatistics (SIBS) June 2017–July 2017
 Student | *RSPH, Emory University*
- Supplies Over Seas (SOS) July 2017
 Volunteer

HONORS

- UofL Dean's List Fall 2016, Spring 2017, Spring 2018
- UofL Dean's Scholar Fall 2017
- Kentucky Educational Excellence Scholarship 2013, 2016, 2017
- NCWIT Aspirations in Computing Kentucky Affiliate 2013
- Everett E. Black Scholarship 2013
- Illinois Institute of Technology University Scholarship 2013
- Rose-Hulman Merit Scholarship 2013
- Carol Martin Gatton Academy of Mathematics and Science in Kentucky 2011-2013