

# CIRCE MCDONALD

[CirceMcD@gmail.com](mailto:CirceMcD@gmail.com) | <https://circe-mcdonald.netlify.app/>

---

## SKILLS

---

**Languages:** R (Bioconductor, tidyverse), Python, SQL, Bash\*, Java\*, C\*

**Data visualization:** Tableau, Plotly, RShiny

**Statistical analysis:** machine learning, multilevel models, high-dimensional data, generalized linear mixed models, normalization and transformation procedures, experimental design

**Subject area expertise:** clinical trials, biomarkers, virology, genetics, emerging infectious disease, disease surveillance, liver disease

\* Indicates familiarity with but not proficiency.

---

## EXPERIENCE

---

### Gilead Sciences

Associate Scientist

Bioinformatics Research Associate II

Clinical Data Management Associate

Foster City, CA

March 2021 - Present

January 2019 – March 2021

March 2018 – January 2019

- Served as primary biomarker bioinformatics and biostatistics support for all ongoing HBV Cure trials.
- Conducted exploratory analysis in support of multiple phases of clinical trials in the areas of HBV, HIV, and CovID-19 using R and Python. Developed Tableau dashboards for dynamic data visualizations for these projects.
- Team member on a variety of machine learning projects including medical image analysis and natural language processing of medical documents.
- Conducted a variety of bioinformatic analyses including GWAS, single cell, and microbiome.
- Led pipeline working group to automate data processing on on-prem, AWS, and Azure clusters.
- Independently developed and implemented daily quality control reports for rapid assessment of newly received clinical data in python. Aggregated metrics from these reports to inform vendors and vendor managers of pain points.
- Produced a variety of small automation scripts to improve response times and reduce recurring workloads.

### Pulendran Lab, Emory University/Stanford University

Life Science Research Associate II

Atlanta, GA/Palo Alto, CA

February 2017 – March 2018

- Collaborated with senior bioinformaticians to pilot and implement laboratory information management system (LIMS), LabKey, to support *in vitro*, *in vivo*, and clinical applications.
- Collaborated with senior bioinformaticians to improve computational efficiency of clinical trial analysis pipeline and create dashboards for immunology researchers using R and MatLab.

### Suthar Lab, Emory University

Senior Research Specialist

Atlanta, GA

September 2015 – February 2017

- Performed quantitative trait loci analysis (maximum likelihood and regression analyses of high-dimensional genomic data) in R utilizing Collaborative Cross model in collaboration with Martin Ferris at UNC-Chapel Hill.
- Validated and revised SOPs for DMID clinical trial for Ebola vaccine 'omics (transcriptomics, proteomics, metabolomics, and lipidomics) sample collection.

### Division of Parasitic Disease and Malaria, CGH, CDC

IHRC Microbiologist

APHL EID Training Fellow

Atlanta, GA

September 2014 – September 2015

September 2013 – September 2014

- Utilized sera from a five-year longitudinal study of chimpanzee filarial infection to model immune response of seven antibodies to three antigens using multiplex assay.
- Proposed and validated novel colorimetric dried blood spot degradation measurement protocol.

---

## EDUCATION

---

Master of Computer Science

M.P.H. Biostatistics

B.S. Molecular Cell Biology

Georgia Tech

Georgia State University

Dominican University of CA

January 2020 – May 2023 (Expected)

August 2015–May 2017

August 2009-May 2013