

MICHAEL PARTHUN

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OBJECTIVE: Placement in a PhD program for Immunology allowing me to further develop my expertise and explore the field in greater depth

EDUCATION: **The Ohio State University**, Columbus, Ohio
Bachelor of Science, Double Major
Biochemistry
Data Analytics w/ Specialization in Biomedical Informatics
Graduation Date: May 2021. GPA: 3.93

RELEVANT COURSES:

- Methods in Bioinformatics
- Statistical Modelling Series
- Data Visualization
- Bayesian Analysis
- Data Mining
- Biochemistry Series w/lab
- Databases Series
- Statistical Learning
- Molecular Genetics
- Capstone in Data Analytics

RELEVANT SKILLS: Laboratory

- Plasmid Cloning
- Gel Electrophoresis (Agarose, SDS-PAGE)
- Cell Culture (Macrophages, Dendritic Cells, and T Cells)
- Flow Cytometry
- siRNA Knockdown
- Nanoparticle Treatment of Cells
- RNA Isolation
- Bacterial Transformation
- Western Blotting
- Kinetics Assays
- Isolation of Primary Cells from Human and Mouse Samples
- ELISA
- BCA Assay
- Cell Counting
- RT-PCR

Animal Research

- Earpunching
- Weaning
- Intranasal Administration
- Dissection (Bone Marrow, Lymph Nodes, CNS, Lungs)
- Perfusion
- Experimental Autoimmune Encephalitis Techniques (Immunization, Scoring)
- Injections (IP, SQ, IV)
- Oral Gavage
- Use of Controlled Substances (Ketamine)

Computational

- R
- ChIP-Seq
- Java
- Excel
- Genome Browsers (IGV, UCSC)
- GraphPad Prism
- RNA-Seq
- Python
- C
- SQLite
- FlowJo

**RELEVANT
EXPERIENCE:**

The Ohio State University, Department of Molecular Genetics, Columbus, Ohio

Undergraduate Researcher, Singh Lab (September 2018 – January 2021)

- Participated in regular meetings with PI and other lab members to discuss aspects of research and experiments.
- Worked on bioinformatics for three semesters, including data cleaning and manipulation, statistical testing, analyzing gene orthology and localization, and exploring genome and protein databases
- Worked in wet lab for two semesters, including running gels, plasmid cloning, and bacterial transformation

The Ohio State University, Department of Health and Rehabilitation Sciences, Columbus, Ohio

Research Assistant, Guerau Lab (June 2021– Present)

- Managed several concurrent projects, planning and performing experiments to produce data regularly to be used for grants and papers
- Presented and discussed data at weekly lab meetings
- Managed mouse colony, including mouse maintenance, genotyping, and planning
- Processed and analysed RNA-Seq and ChIP-Seq datasets for use in grants
- Coordinated experiments with human subjects
- Presented at regular meetings with collaborating labs, coordinating and planning experiments for joint projects
- Managed inventory of the lab, including tracking supply of various reagents, ordering new supplies, and receiving shipments
- Trained new lab members, including undergraduate students and rotating graduate students

HONORS:

- Graduated summa cum laude
- University Honors Program and Dean's List
- Center for RNA Biology Fellowship, Summer 2019

PUBLICATIONS:

- Gangras P, Gallagher TL, Parthun MA, Yi Z, Patton RD, Tietz KT, et al. (2020) Zebrafish *rbm8a* and *magoh* mutants reveal EJC developmental functions and new 3'UTR intron-containing NMD targets. *PLoS Genet* 16(6): e1008830. <https://doi.org/10.1371/journal.pgen.1008830>

REFERENCES

- PI: Dr. Mireia Guerau (mireia.guerau@osumc.edu)
- Undergraduate PI: Dr. Guramrit Singh (singh.734@osu.edu)
- Biochemistry Professor & Fellowship Supervisor: Dr. Jane Jackman (jackman.14@osu.edu)