Daniel S. Araujo, MS

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EDUCATION

University of Chicago, Chicago, IL, USA   **2023-Present**
Doctor of Philosophy Degree in Human Genetics

Loyola University Chicago, Chicago, IL, USA   **2020-2023**
Master of Science Degree in Bioinformatics

Federal University of Minas Gerais, Belo Horizonte, MG, Brazil   **2016-2020**
Bachelor of Science Degree in Biological Sciences

RESEARCH EXPERIENCE

Graduate Student, Loyola University Chicago (PI: Heather E. Wheeler, PhD)   **2020-2023**
- Developed multiple gene expression prediction models for transcriptome-wide association studies.
- Assessed and compared the performance of different gene expression prediction methods across distinct human populations.
- Mentored 2 undergraduate students in the laboratory.

Undergraduate Student, Federal University of Minas Gerais (PI: Aristóteles Góes-Neto, PhD)   **2018-2020**
- Applied molecular biology techniques (DNA/RNA extraction and purification, and PCR and RT-PCR) for the study of fungi.
- Developed pipelines for assembly and annotation of fungi mitochondrial and nuclear genomes, as well as for phylogeny analysis using molecular data.

TEACHING EXPERIENCE

Teaching Assistant, Department of Bioinformatics, College of Arts & Sciences, Loyola University Chicago (Professor: Heather E. Wheeler, PhD)   **2023**
- TA for the discipline of Computational Biology (COMP 383/483).

Teaching Assistant, Department of Biochemistry and Immunology, Institute of Biological Sciences, Federal University of Minas Gerais (Professor: Rafael P. Vieira, PhD)   **2019**
- TA for the disciplines of Biochemistry, Molecular Biology, Projects on Biochemistry, and Physiological Chemistry.

PUBLICATIONS

- Menezes TA, Aburjaile FF, Quintanilha-Peixoto G, Tomé LMR, Fonseca PLC, Mendes-Pereira T, **Araújo DS**, Melo TS, Kato RB, Delabie JHC, Ribeiro SP, Brenig B, Azevedo V, Drechsler-Santos ER, Andrade BS, Góes-Neto A. Unraveling the Secrets of a Double-Life Fungus by Genomics: *Ophiocordyceps australis* CCMB661 Displays Molecular Machinery for Both Parasitic and Endophytic Lifestyles. Journal of Fungi. 2023 Jan 13;9(1):110. doi: doi.org/10.3390/jof9010110
- Quintanilha-Peixoto G, Marone MP, Raya FT, José J, Oliveira A, Fonseca PLC, Tomé LMR, Bortolini DE, Kato RB, **Araújo DS**, De-Paula RB, Cuesta-Astroz Y, Duarte EAA, Badotti F, de Carvalho Azevedo VA, Brenig B, Soares ACF, Carazzolle MF, Pereira GAG, Aguiar ERGR, Góes-Neto A. Phylogenomics and gene selection in *Aspergillus welwitschiae*: Possible implications in the pathogenicity in *Agave sisalana*. Genomics. 2022 Oct 25;114(6):110517. doi: 10.1016/j.ygeno.2022.110517
- **Araújo DS**, Wheeler HE. Genetic and environmental variation impact transferability of polygenic risk scores. Cell Rep Med. 2022 Jul 19;3(7):100687. doi: 10.1016/j.xcrm.2022.100687
- Fonseca PLC*, De-Paula RB*, **Araújo DS***, Tomé LMR, Mendes-Pereira T, Rodrigues WFC, Del-Bem LE, Aguiar ERGR, Góes-Neto A. Global Characterization of Fungal Mitogenomes: New Insights on Genomic Diversity and Dynamism of Coding Genes and

Accessory Elements. Front Microbiol. 2021 Dec 1;12:787283. doi: 10.3389/fmicb.2021.787283 (* denotes shared first authorship).
- **Araújo DS**, De-Paula RB, Tomé LMR, Quintanilha-Peixoto G, Salvador-Montoya CA, Del-Bem LE, Badotti F, Azevedo VAC, Brenig B, Aguiar ERGR, Drechsler-Santos ER, Fonseca PLC, Góes-Neto A. Comparative mitogenomics of Agaricomycetes: Diversity, abundance, impact and coding potential of putative open-reading frames. Mitochondrion. 2021 May;58:1-13. doi: 10.1016/j.mito.2021.02.002
- Fonseca PLC, Badotti F, De-Paula RB, **Araújo DS**, Bortolini DE, Del-Bem LE, Azevedo VA, Brenig B, Aguiar ERGR, Góes-Neto A. Exploring the Relationship Among Divergence Time and Coding and Non-coding Elements in the Shaping of Fungal Mitochondrial Genomes. Front Microbiol. 2020 Apr 29;11:765. doi: 10.3389/fmicb.2020.00765

PEER REVIEW ACTIVITY
- Frontiers in Fungal Biology (1).

CONFERENCE PRESENTATIONS
- **Araújo DS**, Nguyen C, Hu X, Rich SS, Rotter JI, Im HK, Manichaikul AW, Wheeler HE, on behalf of the NHLBI TOPMed Consortium. "*Multiadaptive shrinkage improves cross-population transcriptome prediction for transcriptome-wide association studies in underrepresented populations*" – American Society of Human Genetics 72nd Annual Meeting, 2022 (oral presentation).
- **Araújo DS**, Rich SS, Rotter JI, Im HK, Manichaikul A, Wheeler HE, on behalf of the NHLBI TOPMed Consortium. *"Improving cross-population transcriptome prediction models for transcriptome-wide association studies in underrepresented populations."* - CHARGE (Cohorts for Heart and Aging Research in Genomic Epidemiology) Conference, 2022 (poster presentation)
- **Araújo DS**, Rich SS, Rotter JI, Im HK, Manichaikul AW, Wheeler HE, on behalf of the NHLBI TOPMed Consortium. "*Mitochondrial and sex chromosome genetically regulated gene expression implicates new genes in complex traits across multiple human populations.*" – American Society of Human Genetics 71st Annual Meeting, 2021 (poster presentation).
- **Araújo DS**, Fonseca PLC, Quintanilha-Peixoto G, De-Paula RB, Brenig B, Carvalho VA, Drechsler-Santos ER, Góes-Neto A. "*Characterization of the mitochondrial genome of Phellinotus piptadeniae (Basidiomycota, Hymenochaetales) and insights on the phylogeny of Agaricomycetes through comparative mitogenomics*" – X-Meeting 2019 15th International Conference of the AB3C, 2019 (poster presentation).

AWARDS
- Travel Award, Loyola University Chicago, 2022.
- Travel Award, Cohorts for Heart and Aging Research in Genomic Epidemiology Consortium (CHARGE) Philadelphia Meeting, 2022.
- Reviewers' Choice Abstract Award, American Society of Human Genetics 71st Annual Meeting, 2021.

FELLOWSHIPS
- Research Assistant Fellowship, Loyola University Chicago.   2020-2023
- Undergraduate Research Project Fellowship, Brazilian National Council for Scientific and Technological Development (CNPq).   2018-2020

SKILLS
- Languages: English, French, Portuguese.
- Programming languages: Python, R, SQL, Unix.