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**EDUCATION**

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**Ph.D. in Biology, Evolution and Ecology**

Palo Alto, CA

Stanford University, Advisor: Professor Moisés Expósito-Alonso

Sept. 2022 – Present

- Developing tools to understand plant adaptation & estimate genetic diversity loss to changing climates.

**B.Sc in Biochemistry**

Montreal, QC

McGill University

Sept. 2015 – Dec. 2018

- BL21 Research Scholar: Research Grant for Independent Student Researchers
- Yale Hackathon Award
- Chemistry Grant for Exceptional Students in Chemistry

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**EXPERIENCES**

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**ENCODE Consortium Team Lead**

Palo Alto, CA

Stanford University, Advisors: Professor Anshul Kundaje and Professor Jesse Engreitz

April. 2019 - Present

- Organized multiple bioinformatics challenge days to foster community collaboration and analysis in the field of Distal Regulation.
- Investigated the transcription factor landscape and mechanistic behavior of chromatin modifiers using deep learning algorithms.
- Organized and lead discussion groups of 30 interdisciplinary scientists to foster effective collaboration.
- Developed a comprehensive resource of enhancer-gene linking tools across 300 cell types and tissues for analyzing disease risk in humans.

**Graduate Student Research Assistant**

Palo Alto, CA

Adventure Scientists, Advisor: Lauren Oakes

June. - July 2023

- Performed a comprehensive literature review on mangrove forests globally and in Indonesia.
- Proposed and established comprehensive tests to quantitatively measure how river cleanups aid in improving biodiversity restoration.

**Research Assistant**

Berkeley, CA

University of California, Berkeley, Advisor: Professor Montgomery Slatkin

April. 2019 - April 2020

- Developed an analytical solution to estimating coalescence probabilities and population divergence times from SNP data in Neanderthals.

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**PUBLICATIONS**

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1. Spence, J., **Mualim, K.** & *et al.* Genome-wide maps of regulatory enhancer-gene interactions across human cell types and tissues. *In Preparation* (2023).
2. Gschwind, A., **Mualim, K.** & *et al.* Genome-wide maps of regulatory enhancer-gene interactions across human cell types and tissues. *In Submission* (2023).
3. Expósito-Alonso, M. *et al.* Power and limitations of the mutations-area relationship to assess within-species genetic diversity targets for post-2020 Sustainable Development Goals. *EcoEvoRxiv* (2022).
4. **Mualim, K.**, Theunert, C. & Slatkin, M. Estimation of coalescence probabilities and population divergence times from SNP data. *Heredity* **127** (2021).
5. Nasser, J. *et al.* Genome-wide enhancer maps link risk variants to disease genes. *Nature* **593**, 1–6 (2021).
6. **Mualim, K.** *et al.* A Computational Validation of Enhancer-Gene Linking. *ENCODE Consortium* (2019).

## LEADERSHIP EXPERIENCE

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### Community Organizer

Palo Alto, CA

Sunrise Movement

- Spearheaded a compensation fellowship program focused on supporting under-served community leaders doing electoral work.
- Fostered partnerships with indigenous organizations, Sogorea Te Land Trust, to involve them in decision-making processes and to respect the principle of free, prior and informed consent when pushing for local policy.
- Collaborated on defining 2020 Sustainability Goals and Passed new building reach codes in Palo Alto
- Passed new building reach codes in Palo Alto
- Spearheaded a Compensation Fellowship program focused on financially supporting under-served community leaders doing electoral work.

### Event Coordinator

Montreal, CA

Roots: Mental Health Alliance

- Collaborated with local organizations to plan art showcase events focused on elevating artists living with mental health issues, featured in Documentary by Green Lion Films.
- Initiated awareness programs and facilitated panel discussions to discuss mental health with experts

### Volunteer

Montreal, CA

HANY: Student-run charity aiming to ensure human rights for immigrants

- Organized panel discussions and conferences to raise awareness about humanitarian crises, the social integration of refugees and immigration policies.

### Finance Director

Montreal, CA

BranchOut Mentorship

- Developed after-school art, cooking, woodworking programs for underfunded high schools
- Fund-raised and managed for resources, supplies for art programs

## PROJECTS/AWARDS

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- **ASHG Trainee Research Excellence Award Winner:** Awarded to 3 out of 1000 presentations at American Society for Human Genetics (ASHG) 2023
- **Top 3 Talk at GEOBON:** Awarded the top 3 talks presented by at the Group on Earth Observations on Biodiversity Observation Network.
- **Scenes from the Anthropocene:** \$25k seed grant to develop projects focussed on bringing community voices to conservation issues
- **Improving building accessibility with Machine Learning:** An app to advise cities on inclusive building accessibility standards. Awarded most innovative use of Machine Learning for Social Good.
- **Rising Voices Youth Award:** Awarded by the Sierra Club for our work on Alameda County Green New Deal and improving equity issues in the Bay Area.
- **Team Contribution Award:** Awarded a team that made an outstanding effort in the ENCODE Consortium
- **B21 Scholar:** Awarded to students with innovative research ideas
- **Tomlinson Engagement Award for Mentoring Award:** Awarded to one of the best students in class