Rhondene J. Wint, B.Sc.

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I study post-transcriptional regulation of gene expression at the developmental and evolutionary timescales. My primary research investigates how transfer RNA (tRNA) dynamics contribute to cell fate in neural differentiation.

EDUCATION

1. **University of California- Merced** Ph.D. in Quantitative & Systems Biology (Aug. 2017 – Present)
   - Advanced to Candidacy and awarded Master of Science degree in fall 2019

2. **Northern Caribbean University** B.Sc. (*Magna Cum Laude)* in Biological Sciences (2010-2014)

3. **Selected Online Certifications**: Machine Learning (Stanford/Coursera), DeepLearning.ai (Coursera)

EXPERIMENTAL BIOLOGY SKILLS

- Standard molecular biology assays (PCR, gel electrophoresis, etc.)
- Metabolic RNA labelling (EU and 4TU-tagging)
- cDNA library preparation of RNA and tRNA for Illumina sequencing
- *Drosophila* genetics and tissue microdissections
- Immunohistochemistry

STATISTICAL/COMPUTATIONAL SKILLS

- **Programming Languages**: Python, R, UNIX/Bash scripting, git,
- **Machine Learning**: regression, clustering algorithms, dimensionality reduction (PCA, t-SNE, UMAP), feature engineering, artificial neural networks
- **Bioinformatics:** Next-generation sequencing analysis, variant calling, comparative phylogenetics, high performance computing

RESEARCH COMMUNICATIONS

Publications:

Wint R[1], Salamov A[2], Grigoriev IV[3]. accepted December 2021. *Kingdom-wide Analysis of Fungal Transcriptomes and tRNAs Reveals Conserved Patterns of Adaptive Evolution*. Molecular Biology and Evolution.

Conferences:

- **Co-organizer of Northern California Computational Biology Symposium** (2018 & 2019)
  Annual student-led conference organized by graduate students from UC Berkeley, UC Santa Cruz, UCSF, UC-Davis, UC Merced and Stanford (nccb.io).

- **Conference Presentations:**
  Title: *Characterization of tRNA and Codon Usage Patterns across the Fungal Tree of Life*
  - **2019 International Symposium on New Lineages of Life** (USA) (April 2019)
  - **27TH tRNA Conference** (Strasbourg, France) (Sept 2018)

  Title: *Codon optimality and tRNA dynamics during neural differentiation*
  - 65th Drosophila Conference by Genetics Society of America (USA) (March 2021)
  - RNA 2021 by RNA Society (June 2021)

RELEVANT WORK EXPERIENCE

1. **Bioinformatics Intern** Lawrence Berkeley National Laboratory Joint Genome Institute (Summer 2018)
   - Applied data science and machine learning techniques for large-scale genomics analysis of fungal species
   - Delivered research presentations at the intra- and inter-departmental JGI lab meetings

2. **Teaching Assistant** UC Merced (Jan. 2018-Present)
   Biology and bioinformatics courses for undergraduates

3. **High School Teacher** Westwood High School (Sept. 2014- 2017)

4. **Laboratory Instructor** Northern Caribbean University (2012 – 2014)

SELECTED AWARDS & SCHOLARSHIPS

1. UC Merced Living Learning Community Teaching Fellowship (2020-2021)
2. UC Merced Quantitative and Systems Biology Summer Research Fellowship (2019)
3. UC Merced Computational Biology Fellowship (2018)
4. UC Merced Graduate Division Recruitment Fellowship (2017)
5. Jamaica National Bank Tertiary Full Scholarship (2012&2013)
6. Jamaica Union Undergraduate Scholarship (50% Tuition waiver) (2010-2014)

PROFESSIONAL DEVELOPMENT

1. **Facebook Above and Beyond Computer Science bootcamp for Non-CS STEM PhD students** (Summer 2020)
   8-week invitation-only training workshop on Data Structures & Algorithms, and best practices for technical coding interviews led by Facebook software engineers.
2. **Certified Software & Data Carpentry Instructor** (Present)
   I organize and co-lead workshops that teach adult learners how to code and programmatically perform data analysis and visualization.
3. **Full-Stack Deep Learning bootcamp** **(**March 2019)
   Intensive 2-day training program for building and deploying deep learning models for computer vision and natural language processing. Organized by UC Berkeley, OpenAI and Turnit-In.

4. **NSF-NRT Interdisciplinary Computational Graduate Education (ICGE) Program** (Spring 2018)
   Project-based program that trains 1st year graduate students from different disciplines in computational methods for research. As a capstone project we implemented a machine learning- based phishing email detector that outperformed college-enrolled human participants by 1.4%.

OUTREACH & EXTRACURRICULAR ACTIVITIES

1. **'Meet a Scientist' Guest Presenter** at Merced District of Schools STEAM Centre (Fall 2017)

   I organised a creative and interactive demonstration of wave motion to 4th grade students.

2. **Business Model Global Competition** (Undergraduate) (Fall 2013 – Spring 2014)

   https://www.businessmodelcompetition.com
   Founder of a team that developed an agarose-based medium infused with natural antibiotics for preserving fruits without use of electricity. My team won 3rd place at the National Finals

3. **President of Undergraduate Science Students Association** (Sept. 2013-May 2014)

   Led a team of 12 executive members that organized diverse academic/ social events, fund-raising and community outreach programmes.