

# Elena Kahn

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## **EDUCATION**

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### **Bachelors of Science Molecular, Cellular, and Developmental Biology (2015-2019)**

University of Washington, Seattle, WA  
Minor: Marine Biology

GPA: 3.44  
Dean's List (2016, 2018, 2019)

### **Wenatchee High School (2011-2015)**

Wenatchee, WA

GPA: 4.0; Valedictorian

## **RESEARCH EXPERIENCE**

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### **Fred Hutchinson Cancer Research Center, Seattle, WA (September 2020- Present)**

PI: Dr. Harmit Malik

Research Technician: Investigating the function and evolution of centromeric histone paralogs in *Drosophila*.

Developing transgenic flies to study the localization of CENH3 paralogs Cid1, Cid3, and Cid4 in *D. auraria*.

Utilizing molecular techniques such as PCR, restriction digests, gel electrophoresis, Gibson Assembly, transformation of competent cells and cloning.

Experience with fluorescent dissecting and confocal microscopes.

### **Fred Hutchinson Cancer Research Center, Seattle, WA (July 2019- September 2020)**

PI: Dr. J Lee Nelson

Research Technician: Various projects.

Investigating the presence of microchimerism\* (Mc) in umbilical cord blood (CB) units, and the effect on relapse probability in leukemia patients who underwent CB transplantation.

Exploring the presence of Mc from an older sibling in patients with systemic sclerosis and healthy controls, and considering how Mc from different origins may contribute to the pathogenesis of an autoimmune disease.

Investigating the potential role of Mc in the development of squamous cell carcinomas.

Performed specific qPCR assays to detect Mc in above projects.

Gained experience using Fluorescence Activated Cell Sorting (FACS) and related FlowJo software, in addition to ImageStreamX imaging cytometer and data analysis software.

### **Fred Hutchinson Cancer Research Center, Seattle, WA (October 2018- July 2019)**

PI: Dr. J Lee Nelson

Lab Aide: Various projects.

Data analysis for qPCR data involving microchimeric cells in scleroderma patients.

Optimized specific qPCR assays for use in further HLA typing experiments.

Gained proficiency in GraphPad statistical software and Microsoft Office.

### **Fred Hutchinson Cancer Research Center, Seattle, WA (July 2018- October 2018)**

PI: Dr. J Lee Nelson

Summer Undergraduate Intern: Investigating the relationship between microchimerism and severe systemic sclerosis.

Performed qPCR assays to detect Mc in scleroderma patients. Integrated current and previous data to visualize correlations between Mc and autoimmune disease.

**\*Microchimerism (Mc)** = the bi-directional transfer of cells between a mother and her fetus during pregnancy. Mc has implications in autoimmune disease and cancer.

**USDA-ARS: Physiology and Pathology of Tree Fruits Research, Wenatchee, WA  
(June 2018- July 2018)**

PI: Dr. Loren Honaas

Biological Science Aid: Various projects.

Helped supervise and train two undergraduate employees. Employees were trained in general lab practice and molecular techniques, including tissue processing, liquid nitrogen handling, RNA extraction, and use of quality control instruments.

**UW Friday Harbor Laboratories, Friday Harbor, WA (March 2018-June 2018)**

Student: "FHL 470 Historical Marine Ecology Research Experience".

Research apprenticeship on San Juan Island, WA. Learned marine ecological research techniques, performed independent research in the intertidal, and presented findings at FHL Historical Ecology Research Talks. Mary Gates Research Scholar. Data and research paper may be found at: [https://github.com/elahi/fhl470/tree/master/student\\_projects/kahn](https://github.com/elahi/fhl470/tree/master/student_projects/kahn)

**UW Anthropology Department (September 2017- March 2018)**

PI: Dr. Dan T.A. Eisenberg

Undergraduate assistant: "An ADHD-associated polymorphism in the DRD4 gene and nutritional status among Rendille children in northern Kenya"

Performed PCR and gel electrophoresis assays to genotype individuals at the DRD4 gene.

**USDA-ARS: Physiology and Pathology of Tree Fruits Research, Wenatchee, WA  
(June 2017- September 2017)**

PI: Dr. Loren Honaas

Biological Science Aid: "Developmental Genomics and Metabolomics Influencing Temperate Tree Fruit Quality"

Integration of pre- and post-harvest environmental and commercial practices with genomic and metabolomics data for apple and pear, to determine optimal strategies for fruit storage.

**USDA-ARS: Physiology and Pathology of Tree Fruits Research, Wenatchee, WA  
(June 2017- September 2017)**

PI: Dr. Loren Honaas

Biological Science Aid: "Enhancing Reference Genomes for Cross-Cultivar Functional Genomics"

Comparison of existing reference genomes ('Golden Delicious' and 'Bartlett') to genomes of interest ('Granny Smith' and 'd'Anjou') using gene expression data and bioinformatics tools.

**UW Anthropology Department (March 2017- June 2017)**

PI: Dr. Dan T.A. Eisenberg

Student: "BIO A 459 Laboratory Methods in Anthropological Genetics"

Introductory course in molecular genetics; independently developed and modified a genotyping assay for two SNP's associated with dizygotic twinning. Acquired expertise in DNA extraction from buccal swab, mouthwash, whole blood, and dried blood spot methods.

**USDA-ARS: Physiology and Pathology of Tree Fruits Research, Wenatchee, WA  
(June 2016- September 2016)**

PI: Dr. Loren Honaas

Biological Science Aid: "A practical examination of RNA isolation methods for European pear (*Pyrus communis*)"

Developed a robust method for extracting high-quality RNA from d'Anjou pear fruit, for use in downstream transcriptome analysis.

## **PROFESSIONAL CERTIFICATIONS & TRAINING**

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- Human Subjects Certification (December 2018- present)
- BSL 2/3 Worker Training (December 2018- present)
- Group 1 Biomedical Research Training (December 2018- present)
- Online Biosafety Training (September 2017- present)
- Managing Laboratory Chemicals Training (September 2017- present)
- Fire Extinguisher Training (September 2017- present)
- Online Bloodborne Pathogens for Researchers Training (April 2017- present)

## **PUBLICATIONS AND PRESENTATIONS**

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**Publication:** Kanaan SB, Delaney C, Milano F, Scaradavou A, Besien KV, Allen J, Lambert NC, Cousin E, Thur LA, **Kahn E**, Forsyth AM, Sensoy O, Nelson JL. "Cord blood maternal microchimerism following unrelated cord blood transplantation". *Bone Marrow Transplant*. 01 Dec 2020. Epub ahead of print. PMID: 33257776.

**Presentation: Kahn, Elena.** "Assessing the Relationship between *Anthopleura elegantissima* Body Size Change and Temperature Increase in the Intertidal". FHL 470 Historical Ecology Research Talks, Friday Harbor, WA. Mary Gates Research Scholar (2018).

**Publication:** Honaas, Loren, and **Elena Kahn.** "A practical examination of RNA isolation methods for European pear (*Pyrus communis*).". *BMC Research Notes*, vol. 10, no. 1, 29 June 2017.

## **AWARDS & HONORS**

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- Mary Gates Endowment Award, UW Friday Harbor Labs (2018)
- Dean's List (2016, 2018, 2019)
- Panther Booster Club Scholarship (2015)
- National Honor Society (2012- 2015)

## **LEADERSHIP**

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- Officer, University of Washington Running Club (2017- 2019)
- Captain, Wenatchee High School Cross Country (2015)
- Proctor, Math is Cool Championships (2012- 2015)