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Erick I. Navarro-Delgado

Education

2021 - TO DATE **THE UNIVERSITY OF BRITISH COLUMBIA** - FACULTY OF SCIENCE
PhD in Bioinformatics Grade Average: 95.9/100

2016 - 2021 **UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO (UNAM)** - FACULTY OF SCIENCE
B.Sc. in Biology Grade Average: 9.85/10 (3rd highest GPA in 2021's class)

2019 **KING'S COLLEGE LONDON** - FACULTY OF LIFE SCIENCES & MEDICINE
Study Abroad (Exchange) Grade Average: 73.5 (First-Class Honors)

Certificates

2020 - 2021 **BEDU / SANTANDER**
Data Science program (python) - Length: 5 months

2020 **EMTECH INSTITUTE / SANTANDER**
Introduction to Data Analysis with Python course - Length: 60 hours

Selected Research Experience

SEP 2021 - TO DATE **BC CHILDREN'S HOSPITAL RESEARCH INSTITUTE** (VANCOUVER, CANADA)
Supervisors: Dr. Michael Kobor & Dr. Keegan Korthauer
- Developing RAMEN: a bioinformatic tool to model the genome and exposome contribution to DNA methylome variation across early life with a ML approach.

NOV 2018 - JUN 2021 **NATIONAL CANCER INSTITUTE (INCAN) -** (MEXICO CITY)
Supervisor: Dr. Rodrigo Gonzalez Barrios
- Conducted a bioinformatic analysis to identify epigenetic central players in SARS-CoV-2 infection with therapeutic potential through a weighted gene co-expression network approach using RNA-seq data, leading to a first co-author publication.

JUNE - SEP 2019 **THE UNIVERSITY OF BRITISH COLUMBIA** - (VANCOUVER, CANADA)
Supervisor: Dr. Denise Daley
- Adapted the GWAS permutation-based Gene Set Analysis bioinformatic tool ALLIGATOR to be used with RNA-seq data.

JUNE - AUG 2018 **WEIZMANN INSTITUTE OF SCIENCE** - (REHOVOT, ISRAEL)
Supervisor: Dr. Valery Krizhanovsky
- Tested the effect of senolytics as a therapeutic approach to prevent Pancreatic Ductal Adeno-carcinoma development in a Kras-driven transgenic mouse model and cultured human cell lines

Teaching Experience

SEP - DEC 2023 **THE UNIVERSITY OF BRITISH COLUMBIA-** VANCOUVER, CANADA
Teaching Assistant of STAT545 - Exploratory Data Analysis

SEP - DEC 2022 **THE UNIVERSITY OF BRITISH COLUMBIA-** VANCOUVER, CANADA
Teaching Assistant of STAT545 - Exploratory Data Analysis

MAR 2021 **UNIVERSIDAD AUTÓNOMA METROPOLITANA -** MEXICO CITY
Developed and led the 20 hours-long workshop "Introduction to RNA-seq data analysis"

JAN - JUNE 2020 **UNIVERSIDAD NACIONAL AUTÓNOMA DE MEXICO (UNAM)-** MEXICO CITY
Teaching Assistant of the Epigenetics course in the 2020-2 term.

Oral presentations

2023 **CASUAL MEETING OF MIND TALKS FROM CMMT** (VANCOUVER, CANADA)
"*Genetics vs environment? Modelling their contribution to DNA methylome variability in newborns*"

2020 **VANCOUVER BIOINFORMATICS USERS GROUP LAY-TERM TALKS COMPETITION** (VANCOUVER, CANADA)
"*Nature vs nurture: understanding the influence of genetics and environment on DNA methylation*"

2023 **BIG23 RESEARCH DAY SPEED TALK** (UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, CANADA)
"Modelling the contribution of genetics and prenatal environment to DNA methylome variability with the RAMEN package"

2020 **MEXICAN INTERDISCIPLINARY NETWORK OF EPIGENOMICS** (MEXICO CITY)
"*Identifying targetable epigenetic central players in SARS-CoV-2 infection with a systems approach*"

2019 **SUMMER STUDENT RESEARCH DAY** (VANCOUVER, CANADA)
"I*dentifying the main biological mechanisms in asthma and food allergy: adapting ALLIGATOR to RNA-seq data*" at the University of British Columbia.

2018 **KUPCINET-GETZ INTERNATIONAL SUMMER SCHOOL COLLOQUIUM** (REHOVOT, ISRAEL)
"*Use of senolytics as a therapeutic approach to prevent cancer development* " at the Weizmann Institute of Science

Poster presentations

2023 **BIG23 RESEARCH DAY** (UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, CANADA)
"Modelling the contribution of genetics and prenatal environment to DNA methylome variability with the RAMEN package"

2023 **HEALTHY STARTS RESEARCH DAY** (BC CHILDREN'S HOSPITAL RESEARCH INSTITUTE, VANCOUVER, CANADA)
"Nature or Nurture? Modelling the contribution of genetics and prenatal environment to DNA methylome variability with the RAMEN package"

Selected Honours and Awards

2023 **4-YEAR PHD FELLOWSHIP**- 99 200 CAD, UBC'S PREMIER PHD FELLOWSHIP

2023 **BCCHR HEALTHY STARTS MASTER'S STUDENTSHIP** (ACCEPTED IN NAME) - 10 000 CAD, BCCHRI

2023 **BIG23 SPEED TALK COMPETITION - THIRD PLACE** - 100 CAD, BIG23 ORGANIZING COMMITTEE

2022 **BANK OF MONTREAL GRADUATE FELLOWSHIP** - 3 200 CAD, UNIVERSITY OF BRITISH COLUMBIA

2022 **PATRICK DAVID CAMPBELL GRADUATE FELLOWSHIP** - 4 325 CAD, UNIVERSITY OF BRITISH COLUMBIA

2022 **GERTRUDE LANGRIDGE GRADUATE SCHOLARSHIP IN MEDICAL SCIENCES** - 8 475 CAD, UNIVERSITY OF BRITISH COLUMBIA

2022 **"SOCIETY TO CELL" CLYDE HERTZMAN MEMORIAL FELLOWSHIP** - 13 000 CAD, SOCIAL EXPOSOME CLUSTER

2021 **UNAM BIOLOGY EXCELLENCE AWARD** - AWARD FOR OBTAINING THE 3RD HIGHEST CLASS' GRADE AVERAGE AT UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO CLASS 2021 (BIOLOGY)

2021 **GRADUATE GLOBALINK FELLOWSHIP** - 15 000 CAD, MITACS

2019 **GLOBALINK RESEARCH INTERNSHIP FELLOWSHIP** - 7 500 CAD, MITACS

2018 **KUPCINET-GETZ INTERNATIONAL SUMMER SCHOOL FELLOWSHIP** - WEIZMANN INSTITUTE OF SCIENCE

2017 **SUMMER SCIENTIFIC RESEARCH (VIC) FELLOWSHIP** - MEXICAN ACADEMY OF SCIENCES

2016 **X IBERO-AMERICAN BIOLOGY OLYMPIAD (OIAB) - GOLD MEDAL** (BRASILIA, BRAZIL)

2016 **XXV NATIONAL BIOLOGY OLYMPIAD - GOLD MEDAL** (VERACRUZ, MEXICO)

Affiliations

I am a trainee in the Social Exposome Cluster, the Edwin S.H. Leong Center for Healthy Aging, and the Centre for Molecular Medicine and Therapeutics at the University of British Columbia. I am also the current seminar director at the BC Children's Hospital Research Institute Trainee 'Omics Group (2023-2024).

Software

- *RAMEN* : Regional Association of Methylome variability with ENvironment and Genotype, an R package to model the genome and exposome contribution to DNA methylome variability (github.com/ErickNavarroD/RAMEN). *Manuscript under preparation.*

Publications

† denotes equal contribution

Journal Articles

- Life B; Petkau TL; Cruz GNF; **Navarro-Delgado EI**; Shen N; Korthauer K ; Leavitt BR. (2023). FTD associated behavioural and transcriptomic abnormalities in 'humanized'progranulin-deficient mice: A novel model for progranulin-associated FTD. *Neurobiology of Disease*. 182: 1-15.
- Salgado-Albarrán M.†, **Navarro-Delgado EI†**, Del Moral-Morales A.†, Alcaraz N., Baumbach J., González-Barrios R., Soto-Reyes E. (2021) Comparative transcriptome analysis reveals key epigenetic targets in SARS-CoV-2 infection. *npj Systems Biology and Applications;* doi: 10.1038/s41540-021-00181-x.
- Cáceres-Gutiérrez R.E., Andonegui M.A., Oliva D.A., González-Barrios R., Luna F., Arriaga-Canon C., López A., Prada D., Castro C., Parmentier L., Díaz-Chávez J., Alfaro-Mora Y.,**Navarro-Delgado EI**, Fabian-Morales E., Tran B., Shetty J., Zhao Y., Alcaraz N., De la Rosa C., Reyes J.L., Hédouin S., Hubé F., Francastel C., & Herrera L.A. (2021). Proteasome inhibition alters mitotic progression through the upregulation of a-satellite RNAs. *The FEBS Journal*; doi:10.1111/febs.16261.
- Duncan E.M., Nowotarski S.H., Guerrero-Hernández C., Ross E.J., D'Orazio J.A., **Clubes de Ciencia México Workshop for Developmental Biology***, McKinney S., Guo L., Alvarado A.S. (2020). A new species of planarian flatworm from mexico: Girardia guanajuatiensis. *bioRxiv;* doi:10.1101/2020.07.01.183442.
  * I was part of the Clubes de Ciencia Mexico WfDB consortium.

Book chapters

- **Navarro-Delgado EI†**, Salgado-Albarrán M.†, Torres-Arciga K., Alcaraz N., Soto-Reyes E., Herrera L.A. & Gonzalez-Barrios R. (2021). Bioinformatics of Transcription Factor Binding Prediction. In Diego A. Forero, *Bioinformatics and Human Genomics Research*. USA. CRC Press USA (Taylor & Francis Group); doi: 10.1201/9781003005926-10