Chang Yoon (Yoon) Chung

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EDUCATIONS

Université de Montréal – 2025 ~ Present   *Graduation expected: August 2027*

- o   Thesis-based Master of Science (MSc) in Applied Mathematics
- o   Funded by Graduate Research Assistantship and International Tuition Exemption Scholarship
- o   Supervisor: Professor David McLeod

University of Alberta – 2021 ~ 2024   *Graduated: June 2024*

- o   Bachelor of Science (BSc) in Mathematics major and Computing Science minor
- o   Graduation with Distinction
- o   Cumulative GPA: 3.4/4.0, Major GPA: 3.7/4.0

Academy of Art University – 2015 ~ 2016 ∪ 2018 ~ 2020   *Degree not finished*

- o   Bachelor of Fine Arts (BFA) in 3D Animation and Visual Effects
- o   Served in the Republic of Korea Airforce in 2017 (Mandatory duty)

Savannah College of Art and Design – 2018   *Degree not finished*

- o   Bachelor of Fine Arts (BFA) in 3D Animation and Visual Effects

PROFESSIONAL EXPERIENCES

MSc Student; Graduate student Researcher – August 2025 ~ Present

Université de Montréal

- o   Supervised by Professor David McLeod
- o   Participating in weekly lab meetings at Professor Morgan Craig's research group
- o   Taking coursework required for computational/mathematical biology research
- o   Currently working on the revision of "*How Cells Tame Noise While Maintaining Ultrasensitive Transcriptional Responses*", for *PLOS Computational Biology*

Undergraduate Researcher – July 2024 ~ August 2025

Institute for Basic Science (IBS), Biomedical Mathematics Group (BIMAG)

- o Worked on research projects under Professor Jae Kyoung Kim (KAIST), and Professor Eui min Jeong (Inha University)
- o First author publication of "How Cells Tame Noise While Maintaining Ultrasensitive Transcriptional Responses" on *bioRxiv* (*PLOS Computational Biology*, under revision)
- o Investigated Fano factor discrepancies between multiple transcription regulatory systems
- o Identified components contributing to high noise triggering unexpected activation/repression in transcription regulatory systems
- o Studied how multiple transcription mechanisms generate strong rhythm and noise robustness in biological oscillators (e.g., circadian rhythm, p53-MDM2)

FX Technical Director Intern – July 2022 ~ August 2022

Sony Pictures Imageworks

- o Worked on Netflix film "*In Your Dreams*" (2025)
- o Applied vector calculus and linear algebra to 3D particle and fluid simulations
- o Used Python and proprietary languages for procedural control of fluid dynamics

Research Assistant – September 2020 ~ December 2020

Korea Institute of Science and Technology Information

- o Assisted global market research projects during COVID19
- o Worked on projects analyzing overproduction and waste of facial masks
- o Collection of data, report write-ups, and creation of presentation materials
- o Used Python for big data processing, and organization

TEACHING EXPERIENCES

Calculus and Linear Algebra Tutor – June 2023 ~ September 2023

- o Tutored first-year undergraduate students

English Tutor – February 2021 ~ November 2021

- o Tutored contemporary English to Korean students

PUBLICATIONS & PREPRINTS

How Cells Tame Noise While Maintaining Ultrasensitive Transcriptional Responses, 2025

- o Authors: Eui Min Jeong*, Chang Yoon Chung*, Jae Kyoung Kim[Ψ] (*First Author, [Ψ]Corresponding Author)
- o Preprint available on *bioRxiv*, currently under review at *PLOS Computational Biology*
- o https://www.biorxiv.org/content/10.1101/2025.06.12.659288v1

RESEARCH & PROJECTS

How Cells Tame Noise While Maintaining Ultrasensitive Transcriptional Responses, 2024 ~ 2025

- o Conducted at Biomedical Mathematics Group (BIMAG) in the Institute of Basic Science (IBS)
- o Presented at IBS Biomedical Mathematics Group Winter 2024 Workshop

Validity of Stochastic Quasi-Steady State Approximation, 2025

- o Currently in Progress (Université de Montréal Project)
- o Analysis of Quasi-Steady State Approximation techniques in complex stochastic biological models

A Supervised Classification Approach to Parameter Estimation in Spatial-Temporal Partial Differential Equations Modelling of Tumor Growth, 2025

- o Currently in Progress (Université de Montréal Project)
- o Dimensionality reduction, classification and parameter estimation of sequenced spatial-temporal data

Cell Division and its Stochastic Model, 2024

- o University of Alberta Coursework Project
- o Development and analysis of cell division stochastic model

Netflix 3D Animation Film, "In Your Dreams", 2022

- o FX Technical Director intern, particle/fluid dynamics simulation using mathematical and computational skills

PRESENTATIONS

"How Cells Tame Noise While Maintaining Ultrasensitive Transcriptional Responses"

- o IBS Biomedical Mathematics Group Winter Workshop 2024, Jeonju, South Korea, 2024
- o Morgan Craig Lab Meeting, Montréal, Canada [2025; *expected*]

"Cell Division and its Stochastic Model"

- o Mathematical Modelling in Biology Presentation, University of Alberta, 2024

HONORS & AWARDS

- o Bourse d'exemption UdeM, Université de Montréal, 2025
- o Graduation with Distinction, University of Alberta, 2024
- o Dean's Honor Roll, University of Alberta, 2024
- o Undergraduate Leadership Award, University of Alberta, 2023
- o Undergraduate Leadership Award, University of Alberta, 2022
- o Academic / Achievement Scholarship, Savannah College of Art and Design, 2018