

# Lin Yuan

Cornell University, Ithaca, NY

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## EDUCATION

<b>Cornell University</b> - Ph.D. in Genetics, Genomics, and Development	Sep 2024 - Jul 2030 Ithaca, NY
<b>The Chinese University of Hong Kong (CUHK)</b> - B.Sc. in Cell and Molecular Biology - Stream: Science, Technology And Research (STAR) - Minor: Computer Science - Cumulative GPA: 3.854/4.000; Major GPA: 3.944/4.000	Sep 2019 - Jul 2024 Hong Kong SAR
<b>University of California, Berkeley</b> - Berkeley Biosciences Study Abroad (BBSA) Program - Cumulative GPA: 4.000/4.000	Jan 2022 - May 2022 Berkeley, CA
<b>University of Toronto (UofT)</b> - Exchange Program between CUHK and UofT (St. George Campus) - Cumulative GPA: 4.000/4.000	Sep 2021 - Dec 2021 Toronto, ON

## RESEARCH EXPERIENCE

<b>Population genomics on non-model organisms</b> <i>Supervisor: Professor Rasmus Nielsen, University of California, Berkeley</i> - On-site: Apr 2022 - Aug 2022; Remote: Sep 2022 - Present - Effect of genomic rescue in Florida <i>Puma concolor</i> population: Characterized the population structure, performed global and local ancestry inference, and revealed the inter- and intra-population relatedness - Color and genetic variation of <i>Oophaga pumilio</i> morphs predate the archipelago formation: Identified color polymorphism-related genetic variants with DE analysis, functional annotation and gene-tree plotting, and characterized population structure with 4-pop test (co-author of Chapter 2 in Dr.Aguilar-Gómez's PhD thesis)	Apr 2022 - Present
<b>Multi-omics on crustaceans</b> <i>Supervisor: Professor Ling Ming Tsang, the Chinese University of Hong Kong</i> - Multi-omics on the herbivory evolution of mangrove crabs: Performed functional annotation and comparative genomic analysis about lignocellulolytic genes of hosts, and reveal microbiota-related herbivory - Profiled gut microbiota composition and revealed taxon DA and taxon-function correlation in six crab species	Sep 2022 - May 2024
<b>Application of human organoids in the environmental monitoring</b> <i>Supervisor: Dr. Wen Liu, Karolinska Institutet</i> - Reviewed culturing protocols of human colorectal organoids and typical microplastic pollution in the mangrove ecosystem, and formulated the first draft of the research proposal	Jul 2023 - Aug 2023
<b>Single-cell ATAC-seq analysis on mouse microglia</b> <i>Supervisor: Professor Ting Fung Chan, the Chinese University of Hong Kong</i> - Performed scATAC-seq analysis with MAESTRO, SnapATAC, and scATAC-pro	May 2021 - Aug 2021
<b>Environmental monitoring with remote-sensing techniques</b> <i>Supervisor: Professor Ruili Li, Peking University Shenzhen Graduate School</i> - Sampled more than 200 mangrove trees from six nature reserves, summarized mangrove diversity assessment approaches, and assisted in conducting UAV-based monitoring - Developed software for thermal imaging-based insect counting and applied for patents as a co-inventor: CN111066735A, CN111161230A, CN111178354A	Jun 2020 - Aug 2020, Jul 2019 - Aug 2019

## PUBLICATIONS

1. Diana Aguilar-Gómez, **Lin Yuan**, Yulin Zhang, Alexander Ochoa, Melanie Culver, Robert Fitak, Dave Onorato, Kirk Lohmueller, Ramus Nielsen. **Genetic Rescue, Selection, and Conservation: Insights from Florida's Puma Whole-Genome Sequencing Analysis**(*intended journal: PNAS*)

2. Diana Aguilar-Gómez, Layla Freeborn, **Lin Yuan**, Lydia L. Smith, Adam Stuckert, Yusan Yang, Tyler Linderoth, Matthew MacManes, Corinne Richards-Zawacki, Rasmus Nielsen. **Color and genetic variation of *Oophaga pumilio* morphs predate the archipelago formation** (*manuscript in preparation*)

## TEACHING EXPERIENCE

**Undergraduate Teaching Assistant of BCHE2030 at CUHK** Sep 2022 - Dec 2022  
 - Held bi-weekly tutorials and Q&A sessions as one of the six TAs for over 270 sophomores taking BCHE2030 (Fundamentals of Biochemistry)

**Voluntary Teacher at Yuanfen Community, Shenzhen** Oct 2019 - Nov 2019  
 - Organized weekly voluntary teaching sessions for 40 migrant children as a member of Fujia Shenzhen Lychee Program (CUHK I-CARE Social Service Project)

## HONORS AND AWARDS

**HKSAR Government Scholarship** 2023 - 2024  
 - Government-funded scholarship (80,000HKD) in recognition of outstanding academic achievements

**Kunkle and Pommerenke Full-Tuition Scholarship** 2021 - 2022, 2023 - 2024  
 - College Annual Big Scholarship (42,100HKD), 16 quotas for about 3200 students

**Chung Chi College Departmental Prize - Cell and Molecular Biology** 2023 - 2024  
 - Awarded to best academically performed final year student in the class

**Chung Chi College Valedictorian Nominee** 2023 - 2024

**Dean’s List (Top 10%), Faculty of Science** 2019 - 2020, 2020 - 2021, 2022 - 2023

**Summer Research Scholarship: Chung Chi FLY Award** 2022 - 2023

**Chung Chi College Class Scholarship** 2020 - 2021, 2021 - 2022  
 - Awarded to non-final year student with Top 1 annual academic record per department

**Exchange Scholarships: Yasumoto International Exchange Scholarship, HKSAR Reaching Out Award, Chung Chi EYE Award, Faculty Exchange Scholarship** 2021 - 2022

**HKSAR Talent Development Scholarship** 2020 - 2021  
 - Category: Innovation, Science and Technology

**Hong Kong, China - Asia-Pacific Economic Cooperation Scholarship** 2020 - 2021

## EXTRACURRICULAR ACTIVITIES

**Guest Speaker/Student Representative**  
 - School of Life Sciences CMB Chill Club May 2024  
 - CUHK Information Day Student Sharing (School of Life Sciences) Oct 2023  
 - CUHK Faculty of Science STARS Briefing Sep 2022  
 - Mainland Undergraduate Association ELTU1001 Workshop Sep 2020

**Committee Member** Mar 2021 - Mar 2022  
 - CUHK Cell and Molecular Biology Class Society 2021

**I-Ambassador and Activity Organizer** Sep 2020 - Sep 2021  
 - CUHK Office of Student Affairs i-ambassador Scheme

**Assistant Helper** Aug 2020 - Sep 2020  
 - CUHK Mainland Undergraduate Orientation 2020

**Gold Medalist** Sep 2019  
 - 50m Breaststroke (Novice Group), CUHK Chung Chi College 51st Aquatic Meet

## SKILLS

**Languages:**  
 Mandarin (Native), English (IELTS overall 8, TOEFL 112), Cantonese (Conversational)

**Wet Lab Techniques:**  
 PCR, western blot, gel electrophoresis, DNA transformation, simple dissection and staining, plate preparation and spreading, DNA/protein extraction, simple cell culture...

**Coding Skills:**  
 C/C++, JavaScript/HTML/CSS, LaTeX, Linux Shell, Python, R, SQL/JDBC

**Operating Systems:**  
 Linux, Windows, macOS