

# SIMAY YUKSEL

Molecular Biology & Biotechnology Researcher | Entrepreneur  
Hong Kong SAR  
+852 6700 9347  
simayuksel0@gmail.com  
LinkedIn: <http://www.linkedin.com/in/simay-yuksel-9b2389271>  
Faculty: Science

## PROFESSIONAL SUMMARY

Goal-driven and passionate Molecular Biology and Biotechnology student at the Science Master Class of the University of Hong Kong, combining academic excellence with hands-on experience in research, entrepreneurship, and leadership. Experienced in conducting academic research and developing strategies to implement innovative ideas, demonstrated through achievements in self-initiated projects and volunteering activities. Equipped with exceptional STEM literacy and analytical skills. Dedicated to advancing scientific innovation through interdisciplinary research and biotechnology enterprise with a results-oriented mindset focused on transforming scientific developments into sustainable real-world applications. Determined to make a far-reaching contribution to science and society and maximise the impact, primarily aiming to combine neuroepigenetics, gene editing, and stem cell technology to pioneer early diagnostic solutions for neurodegenerative diseases.

## EXPERIENCE

**Revita, The University of Hong Kong, Hong Kong SAR** **Oct 2024 - Present**  
**Business Development Associate;** Developing the business development strategy of Revita, a pioneering MedTech initiative developed by HKUMed students, focusing on enhancing healthcare accessibility for seniors.

- Conducting market research to understand the healthcare needs of seniors and explore business opportunities.
- Forging relationships with elderly community centres, NGOs, and healthcare providers to promote the platform and form strategic partnerships. Managing the funding strategy through grants and competitions and managing resources for project sustainability.
- Formulating a strategy to transition from a Student Interest Group at HKU to an operational startup, including participation in the HKSTP Ideation programme.

**The Knowledge Society (TKS), Silicon Valley, USA** **Sep 2023 - Jul 2024**  
**Innovator;** Awarded full scholarship among 1000 students for 10-month virtual innovation program of TKS, a pioneering educational initiative in Silicon Valley that emphasises critical thinking and problem-solving, and offers access to technology, mentors, and a global network from prestigious institutes including MIT and Stanford. Focused on molecular & computational biology, gene editing, startups, projects.

**Hacettepe University, Molecular Biology Department, Ankara/Turkey** **Jul 2023**  
**Volunteer Intern;** Worked as a volunteer intern in DNA Research I, Molecular Biology, and Microbial Genetics laboratories at the Department of Biology, Hacettepe University, under the supervision of PhD students and Prof. Dr Hatice Mergen.

- Observed the doctoral thesis studies of the PhD students conducted at these laboratories, including the investigation of the effects of exercise on the development of colon cancer, the study of AVP hormone in diabetes insipidus, the study of bacteriophage in *E. Coli*, and the obtainment of mitochondrial DNA from antique bone tissue kits. Observed the steps required to be followed to conduct an advanced doctoral thesis.
- Experienced some fundamental molecular biology techniques in practice, including PCR and gel electrophoresis.
- Made a presentation about the article “Fanzor is a eukaryotic programmable RNA-guided endonuclease,” published by Saito et al. reviewing the general overview of the article, the methodology used, discussing the study, and mentioning my final thoughts.
- Presented the article “Photoacoustic molecular imaging-escorted adipose photodynamic-browning synergy for fighting obesity with virus-like complexes,” a recent study published in Nature in July 2021 by Chen et al.
- Advanced my knowledge about the latest developments and studies made in molecular biology.

**Sanofi, Ankara/Turkey**

**Jan-Feb 2023**

**Volunteer Analyst;** Worked as an analyst online at Sanofi on the subject of healthcare.

- Made research about the Sanofi company and health industry. Evaluated the research and tasks in terms of sustainable development goals, diversity, inclusion, and social participation.
- Learned the basic concepts of lean innovation, R&D strategy, marketing strategy, methodology, and market climate.
- Acquired knowledge about the health industry and the process of developing health products, including drugs.
- Learned more about some of the job pathways in healthcare. Gained online job experience for my future career.

**Molecular Biology Club, TED Ankara College, Ankara/Turkey**

**Oct 2022-Jun 2024**

**Founder and President;** Started the “Molecular Biology Club” at TED Ankara College to improve the knowledge of the students and support their studies in this field while creating projects and doing research on molecular biology.

Mentored over 70 students.

- Communicated with specialists in the field of molecular biology or in the fields related to molecular biology.
- Planned the annual process of the club.

**TEKNOFEST National Biotechnology Competition 2023**

**Nov 2022 - Jan 2023**

**Team Captain;** Presided the team at the TEKNOFEST National Biotechnology Competition. Developed a theoretical carriage detector for the identification of abnormal tissues, including tumours, based on FTIR spectroscopy. Led the team to compete in the finals.

**Istanbul University, Aziz Sancar Research Institute of Experimental Medicine, Istanbul/Turkey**

**Aug-Sept 2022**

**Volunteer Intern;** Worked as a volunteer intern in the Cell Survival and Apoptosis Laboratory at the Department of Molecular Medicine, Aziz Sancar Institute of Experimental Medicine, Istanbul University, under the supervision of Prof. Dr Oğuz Öztürk.

- Experienced RT-PCR and DNA isolation techniques.
- Acquired knowledge about basic cell culture applications, including cell maintenance, passaging, cryopreservation, and cell thawing.
- Observed cell counting and viability techniques with different human cancer cell lines.
- Discussed the study fields, including cancer biochemistry, chemotherapy, immunotherapy, apoptosis, and recent advances in molecular biology.

**19 Mayıs Hospital, Ankara/Turkey**

**Jun 2022**

**Volunteer Intern;** Worked as a volunteer intern at the biochemistry and microbiology laboratory of 19 Mayıs Hospital.

- Learned the methods, techniques, and medical machines used in the areas of biochemistry and microbiology, including bacteria purification, antibiotic resistance, blood, urine, excreta analysis, and blood transfusion; and learned how to use them.
- Enriched my knowledge about my area of interest, life sciences, while using the information learned in a serious hospital atmosphere, giving me the opportunity to put theory into practice in this field.

**VOLUNTEERING & COMMUNITY INVOLVEMENT PROJECTS**

**Common Purpose Leadership Development Programme Winter 2024, HKU Horizons**

**Dec 2024 - Jan 2025**

**Participant;** Selected as one of 35 participants in the HKU Common Purpose Leadership Development Programme (LDP) Winter 2024 conducted in Singapore and hosted by the HKU-Common Purpose and HKU Horizons. Awarded HK\$5,000 financial support from the Gallant Ho Experiential Learning Centre.

- Advancing Cultural Intelligence (CQ) skills and practicing inter-cultural collaboration through partnership with Generation Singapore, a global nonprofit network to support people to achieve economic mobility through specialised employment systems for their careers.
- Organising and leading half day employability workshop for 50 Singaporean youths to engage them to strategize their career plans.

- Designing kick-off and graduation events and developing strategies to enhance mentor-mentee engagement for the Alumni Mentorship Programme, a 4-month new initiative running from January 2025 to April 2025 to continuously support alumni post-programme in their careers through tech roles, including junior full stack developer, data engineering, and cloud support.

**HKU Student Ambassador Scheme, The University of Hong Kong** **Oct 2024 - Present**

**HKU Student Ambassador;** mentoring passionate students around the world interested in HKU to promote the spirit, pride, and traditions of HKU, and helping them engage with opportunities at HKU aligning with their prospective career goals.

**Reign of Chains, Ankara/Turkey** **Nov 2023**

**Interviewee;** Got invited to be interviewed for a Spotify podcast episode "Trailblazers: Triumphs of Turkish Women," an episode celebrating the remarkable achievements and contributions of Turkish women who have left a mark on their respective fields.

**PermaKoloji, Bayer & Young Guru Academy (YGA), Istanbul/Turkey** **Jun 2023 - Present**

**Co-Founder;** Co-developed "PermaKoloji," the first permaculture project in Turkey that is applied in school gardens to raise awareness amongst students regarding sustainable agriculture methods and published in the newspapers.

- Presented the social responsibility project idea at the Ideation "Meet with Science," hosted by Bayer and Young Guru Academy (YGA). Won the Ideathon competition and was awarded 100,000 TL funding from Bayer.
- Mentored 50 students and raised their awareness about sustainable agriculture methods from 6.8% to 93.1%.

**International Young Researchers' Conference (IYRC) 2023** **Feb-Jun 2023**

**Project Developer, First Author, and Presenter:** Proposed a community project, titled "Turkiye As a Case Study: Developing an Effective Earthquake Management and Infrastructure System," as a team composed of three students about developing an effective earthquake management and infrastructure system in Turkey by considering the February earthquakes happened in Turkey.

- Developed the project in three aspects: improving earthquake early warning systems (EEWs), developing earthquake action and management systems, and developing emergency communication systems, by considering the current seismic infrastructure of Turkey and other role model infrastructure systems around the world.
- Aimed to contribute to developing the earthquake systems in Turkey, and to raise awareness among the society.
- Enhanced my knowledge about earthquake management and infrastructure systems.
- Presented the community project on the 18th of June 2023 in the IYRC 2023 Conference, an international conference partnered with Harvard and Columbia.

**Topaklı Village School, Ankara/Turkey** **Apr 2023**

**Volunteer Participant;** Volunteered in visiting the Topaklı Village School in Gölbaşı, in which the volunteers taught the primary school students the basics of physics by doing some experiments and playing some games about physics.

- Helped the students to learn physics in an entertaining way. Had an opportunity to meet students in a disadvantaged district and share my scientific knowledge and passion with them.

**Go Digital For a Greener Future, TED Ankara College, Ankara/Turkey** **Jan-Apr 2023**

**Participant;** Participated in an international sustainable development project, "Go Digital For a Greener Future", which was conducted between TED Ankara College in Ankara and Varendock College in the Netherlands and got funded by Erasmus+.

- Joined different sustainable development classes in various areas, including art, science, drama, poverty, quality education, gender equality, and sustainable cities, with students from TED Ankara College and Varendock College. Had an opportunity to have conversations about these topics, develop projects together, and broaden my horizons about sustainability.

## LICENSES, PROGRAMMES & CERTIFICATIONS

**IYRC Medicine & Research Summer Program** **Jun-Aug 2023**

**Participant;** Participated in the 2023 IYRC Medicine & Research Summer Program, a 9-week comprehensive research and medicine summer program hosted by Columbia University Vagelos College of Physicians and Surgeons (VP&S) Global Health Organisation. Learned the experiences of physicians, researchers, and medical students at Columbia University VP&S. Discovered diverse topics of medicine, ranging from imaging methods to clinical medicine.

**edX, CS50's Introduction to Computer Science, Harvard University** **Jun-Jul 2023**

**Coursera, Fundamentals of Machine Learning for Healthcare, Stanford University** **Jan-Mar 2023**

**edX, Data Analysis for Genomics Professional Certificate, Harvard University** **Jul-Dec 2022**

Completed three certified courses: Introduction to Bioconductor, Case Studies in Functional Genomics, and Advanced Bioconductor.

**Coursera, Python for Genomic Data Science, Johns Hopkins University** **Jul-Aug 2022**

**Zero Gravity Academy, Zero Gravity x YouthSTEM Program** **Oct 2020**

Completed an online innovation, entrepreneurship, and disruption readiness program supported by Related & Co.

## HONOURS & AWARDS

- HKU Scholarship For Future Leaders, The University of Hong Kong **Sept 2024-Aug 2028**  
HK\$252,000 Full Entrance Scholarship including Accommodation & Living Allowance, Annual, Merit-based
- Winner of Hackathon 2023 Find Solutions 4 the Future, TUBITAK, Turkey **Oct 2023**
- BIEA 2023 STEM Competition City & Mayor Awards, British International Education Association **Aug 2023**
- AP Scholar with Honour Award, College Board, USA **Jul 2023**
- International 3rd STEM Olympiad Gold Medal in Science, Paris, France
- International 3rd STEM Olympiad Silver Medal in Mathematics, Paris, France **Jul 2023**
- J.U.C. Awards First Place Winner in Research, Light Millennium Organisation **Jun 2023**
- Awarded first-place for her research essay, titled "Stem Cells: A Promising Hope for the Future."
- 3rd International Essay Contest Special Jury Award, Education for Innovation Foundation **Mar 2023**
- Won the Special Jury Award for her essay, titled: Will the Humanity Fail or Pass: SDG 'Gender Equality'
- Outstanding Student Award, OxfordAQA International Qualifications **Dec 2022**

## EDUCATION & QUALIFICATIONS

**The University of Hong Kong, Hong Kong SAR/China** **Sept 2024-Aug 2028**

Bachelor of Science & Master of Research (BSc&MRes)

Major: Molecular Biology & Biotechnology (Intensive) | Minor (Intended): Science Entrepreneurship

**TED Ankara College Foundation High School, Ankara/Turkey** **Sept 2020-Jun 2024**

IB Diploma | AP | OxfordAQA IGCSE

**Corpus Christi College, The University of Oxford** **Jul-Aug 2023**

Studied the condensed Medicine course given by the Oxford Academic Seminars, Oxbridge Academic Programs, with a merit scholarship.

**Sabancı University, Istanbul/Turkey** **Jan-Feb 2022**

Graduated with a double course: "Molecular Biology, Genetic Engineering, and Nanomedicine," and "Editing Nature: From Agricultural Revolution to CRISPR."

## PUBLICATIONS

- Yuksel, S. (2023). [Application of CRISPR/Cas9 to Manipulate iPSCs for Alzheimer's Disease](#). ABA Publishing.
- Yuksel, S. (2023). [Application of Deep Learning Models For Breast Cancer Risk Prediction](#). ABA Publishing.
- Yuksel, S. (2023). [Beyond CRISPR: Fanzor As a Potential New Gene Editing Tool](#). ABA Publishing.
- Yuksel, S. (2023, May). Visual Computing Models in Cancer: PET/CT, CAD, CNN, and ST-Net. Journal of Student Research. <http://dx.doi.org/10.47611/jsrhs.v12i2.4305>
- Yuksel, S. (2023, June). Türkiye as a Case Study: Developing an Effective Earthquake Management and Infrastructure System. SPRING 2023 IYRC. [http://doi.org/10.34614/2023IYRC\\_S57](http://doi.org/10.34614/2023IYRC_S57)
- Eraslan, A., Ayanoğlu, B., Yüksel, S. (2023). Beyond the Basics: A Comparative Study on Protein Extraction From Milk and Chickpeas. FALL 2023 IYRC. [http://doi.org/10.34614/2023IYRC\\_F58](http://doi.org/10.34614/2023IYRC_F58)

## PATENTS

Yuksel, S. (2023). Epigenetic Data-Based AI Model For the Early Detection of Neurodegenerative Diseases (Turkish Patent No. TR 2023/015677). Turkiye Patent and Trademark Office.

## SKILLS AND INTERESTS

STEM Literacy	Academic Research	Cross-Functional Leadership
Social Mentorship	Entrepreneurship	Innovation Implementation
Data-Driven Decision Making	Analytical Problem Solving	Multicultural Negotiation
Sustainable Project Development	Interdisciplinary Collaboration	Cognitive Reasoning

**Research Areas & Interests:** Epigenetics, neuroepigenetics, CRISPR, gene editing, stem cell manipulation and regenerative medicine, molecular pathways in the development of neurodegenerative disorders, epigenetic control of neurodegenerative disorders

**Hobbies:** Camping, Climbing, Horse-Riding, Ice-Skating, Paragliding, Skiing, Travelling, Wind-Surfing

**Coding Languages & Computer Programs (Beginner Level):** Biophyton, Bioconductor, C, Java, Python, RStudio

### Organisations, Societies, Communities:

AIIESEC   Partnership Development Officer at HKU	Sep 2024 - Present
HKU Biological Sciences Community   Member	Sep 2024 - Present
World University Service at HKU (WUSHKU)   Member	Sep 2024 - Present
Young Scientist Scheme (YSS)   Member	Sep 2024 - Present
Harvard University Asia Program (HUAP)   Member of HUAP Conference Planning Team	Oct 2024 - Present
HKU Mentorship   Mentee	Nov 2024 - Present
HKU Lead For Life   Member of Research & Curriculum Team	Nov 2024 - Present
Royal Society of Biology, UK   Member	Nov 2024 - Present